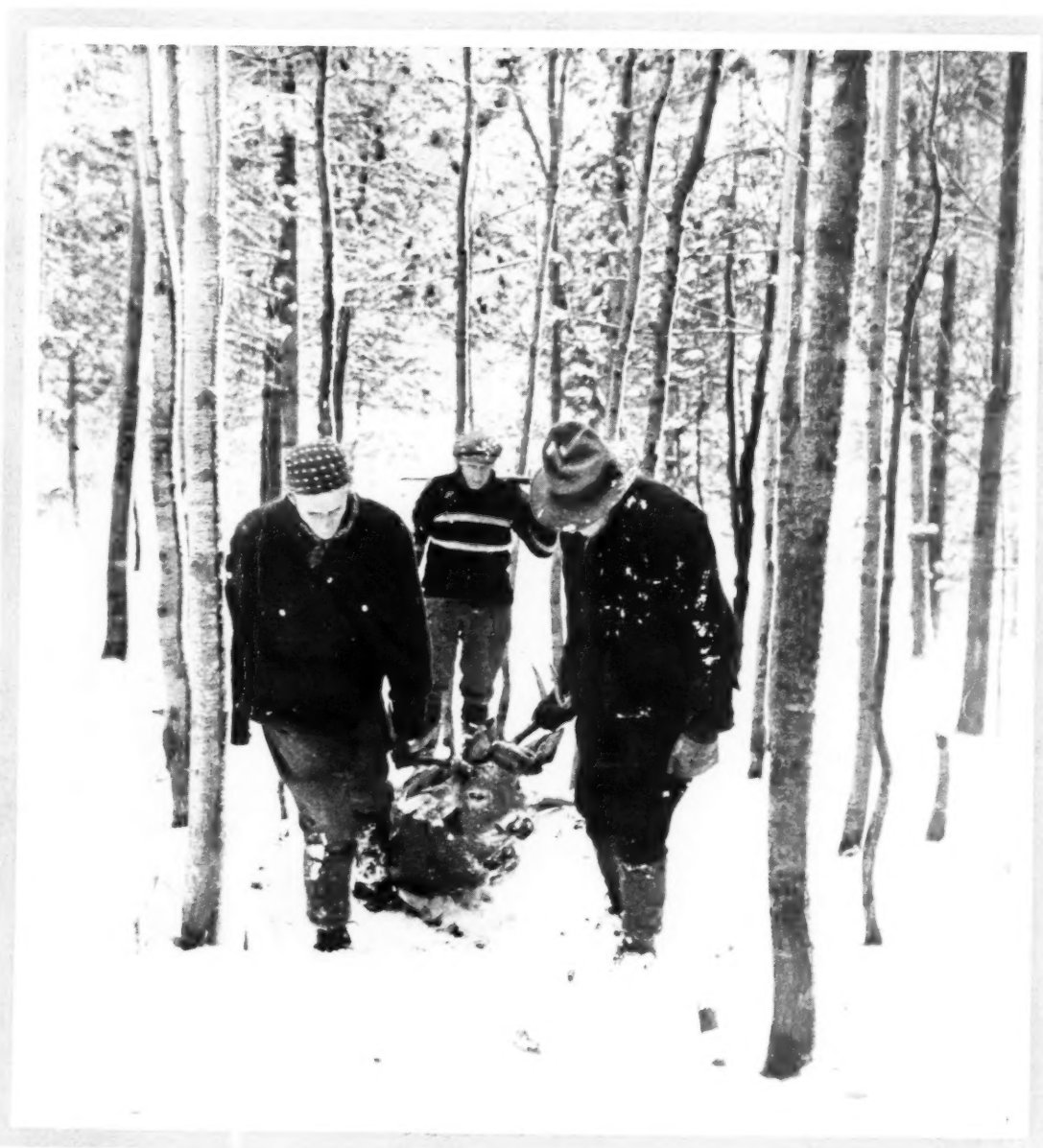


periodical

The

# AMERICAN RIFLEMAN



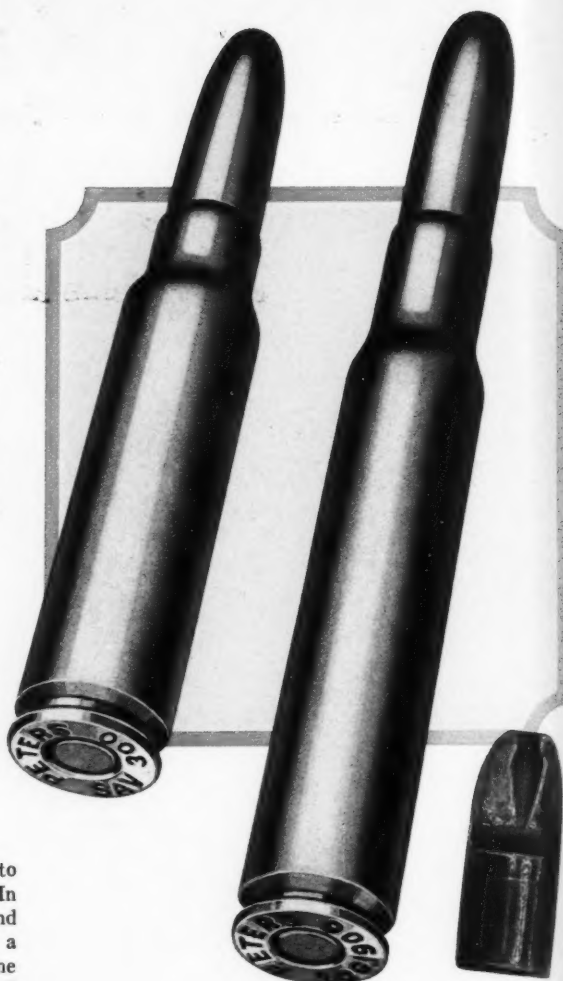
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FEBRUARY, 1928

25 CENTS

# 2 New PETERS CARTRIDGES

*The .30-06 Govt. and the .300 Savage with 200 and 180 grain, hollow point bullets respectively*



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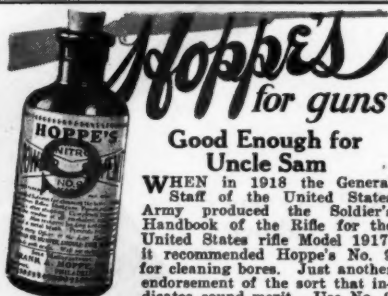
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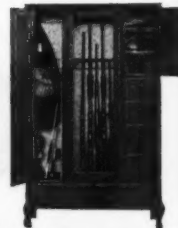
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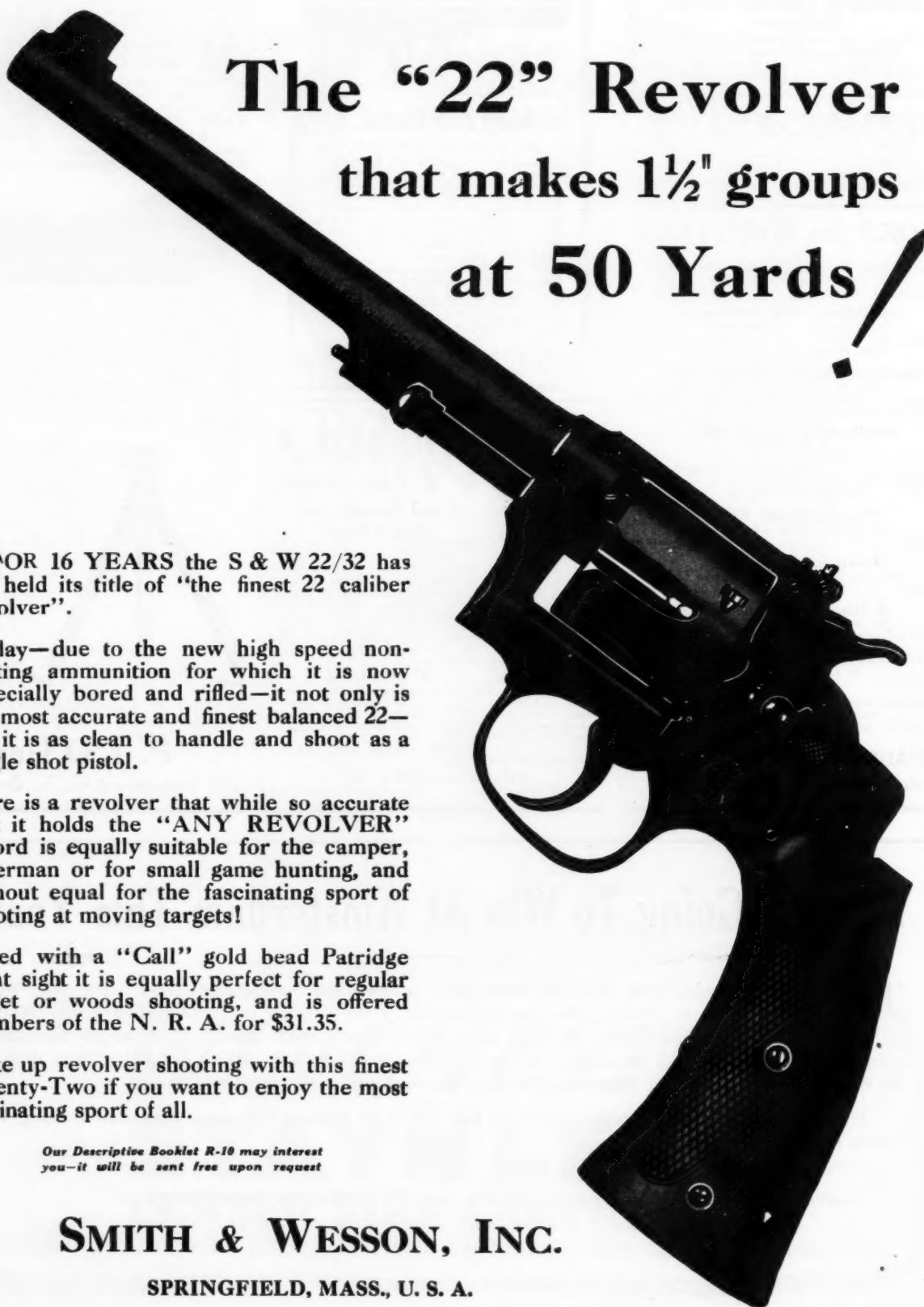
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# The AMERICAN RIFLEMAN

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WASHINGTON, D. C., FEBRUARY, 1928

\$3.00 a Year. 25 Cents a Copy

## Shotgun Powder and Lead Bullets

By E. T. D. Francis

WE HAVE been told many times in late years that if you wish to get fine accuracy when using reduced loads in high-power rifles you must use jacketed bullets, and that although good results can be had with lead bullets, the jacketed ones will always give just a little finer results. Further, it has oft been stated that to get the finest accuracy you must use one of the recognized rifle powders, and that bulk shotgun powder, although having the advantage of being cheaper than rifle powder, will not give the same fine accuracy.

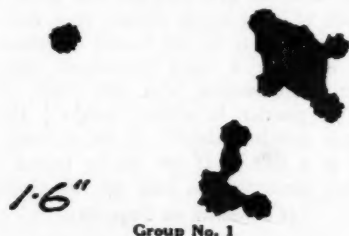
Now taking the .30 Springfield as an example, what can be called fine accuracy with reduced loads? It seems to be generally recognized that any cartridge in a standard weight Springfield rifle, either military or sporting, which will give, say, seven consecutive 10-shot groups at 100 yards averaging 2 inches or less, is giving fine accuracy, even when the groups are fired from a rest and with a telescopic sight; also that when the cartridges are loaded with lead bullets, 2¼ inches is a fine average for 10-shot groups at the same distance. In an article entitled, "What is Accuracy?" by Major (now Lieutenant Colonel) Whelen, the latter speaks of the Squibb-Miller bullet averaging under 2 inches at 100 yards, but points out that these records were made with barrels heavier than normal and on an indoor range. He goes on to say, "Under average conditions, service rifle, metallic sights, outdoors, bullets cast and cartridges loaded by one fairly familiar with such work, I should estimate that one would be very lucky to average less than 3 inches."

A couple of years ago I carried out a series of experiments with du Pont bulk shotgun powder and home-cast bullets, also a few

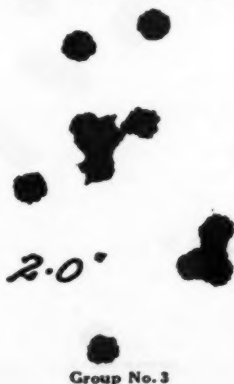
factory-made lead bullets, in the .30 Springfield, with the result that in more than one case I was able to beat the 2-inch average. I am puzzled to know why we have not heard more about shotgun powder in conjunction with lead bullets, and why this combination is not being used much more extensively than appears to be the case. For cheapness, in high-power rifles it can not be beaten, and with it I have been able to obtain results fully as good as with jacketed bullets and No. 80 powder. Perhaps I have been unfortunate with the latter. What I was really looking for in the first place was cheap shooting, and did not expect to get anything very fine in the way of accuracy. I wished a load that would compete with the .22 in price and which would be sufficiently accurate for vermin and small game. Fifty-yard groups averaging around 1¼ inches, in conjunction with a cost of about \$1 a hundred, was my objective. I had previously been able to get quite good accuracy with jacketed bullets and shotgun powder, but this combination did not interest me very much, as jacketed bullets in this part of the world are much too expensive a luxury to shoot away wholesale. Having a Bond double-cavity mould, A-311-700-870, casting 120- and 150-grain bullets of .30 caliber, I started off by casting a large batch of both sizes and sized them to a diameter of .311 in a sizer and lubricator. I began operations at 50 yards with the 120-grain bullet, and soon found that if I wished anything like good shooting

with small loads of shotgun powder, the necks of the cases must be sized no larger than .310 for the .311 bullet. Finally I found that a neck sized to .309 was better still, although it considerably increased the difficulty of seating the bullets. However, with a little practice and by giving a generous reaming to the inside of the neck I found I could seat the bullets truly and squarely with the tong tool I was using at that time. Finally I found that 10 grains of shotgun powder would group the 120-grain bullet into an average of 1.3 inches at 50 yards. This was the figure obtained from five consecutive 10-shot groups. Not a very remarkable record, but more or less what I was looking for. I might say that the charges were not weighed, but were ground out through a powder measure. I found that when I used the .311 neck-expander the groups ran up over 2 inches; and that the very first group I fired with a .309 neck measured only .9 inch, with all the shots cutting into one hole. Several trials with the 150-grain bullet at 100 yards finally resulted in five consecutive 10-shot groups averaging 2.05 inches—largest group 2.35 and smallest 1.80. The load was 12½ grains of shotgun, and the shooting was done from a muzzle rest, with a Winchester telescopic sight. The powder came through the measure as before.

My next trial was with a batch of factory-cast Squibb-Miller and Squibb gas-check bullets. Again, after sundry experimenting, I got down to the same load as with the 150-grain Bond bullet—12½ grains of powder—with the case necks sized .309 as before. The base bands of the Squibb-Miller bullets were sized to .311 instead of firing



Group No. 1

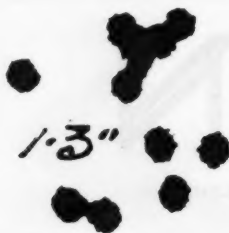


Group No. 3



Group No. 2





Group No. 5

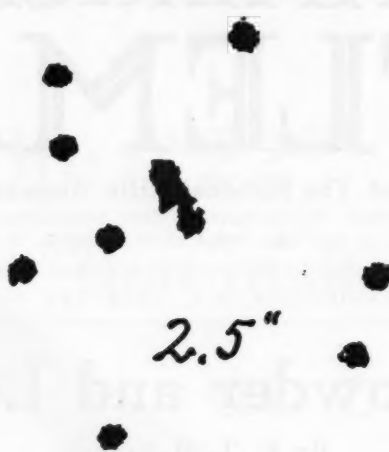
them as cast with a .314 base band, which I believe is the usual practice. The average measurement of the last five 10-shot groups fired with this load at 100 yards was 1.94 inches, which was better than I had dared hope for, especially as the charges were not weighed.

With the Squibb gas-check bullet I was not so fortunate. I tried a good many different charges, but the best I could do was an average of 2.47 inches for six consecutive groups.

A 100-yard average of 1.94 inches was a fairly high standard of accuracy, and I had not much hope of bettering it, except perhaps with the same bullet and weighed charges; and having used up all the factory bullets I had at hand, I decided to follow on with a few more trials of shotgun powder with the 150-grain Bond bullet. My first effort was with a 10-grain charge, and although the resultant group was not a very remarkable one as far as total measurement went, the shots were very evenly distributed, and roughly in the center of the target. Five of the shots cut into one hole measuring just half an inch between centers. This led me to try what a similar load would do with carefully selected bullets and weighed powder charges. I picked out my bullets entirely on the smoothness of their bases, and the charges were weighed with, as nearly as I could tell, no error. The result was No. 1 of the groups illustrated: outside measurement 1.6 inches, with nine of the shots in 1.10. The next group under the same conditions measured 1.50. Finally I had a record of seven 10-shot 100-yard groups as follows: 1.6, 1.5, 2.0, 2.5, 1.3, 1.4, 2.3; average, 1.80 inches. All groups were measured between the centers of the outside shots, and with the exception of one which I did not finish, owing to my telescope sight going out of adjustment, the groups were consecutive.

The reproductions of the groups are direct contact prints and are therefore exactly the same size as the originals. The full specification of the load is as follows: bullet, Bond .311-870, 150-grain. Home cast: one part tin to ten parts lead; sized to .311 and loaded far enough out of the case to bear against the rifling (some pressure was needed to close the bolt). Powder: 10 grains' weight of du Pont bulk shotgun. Cases: Western, originally fired with full charges and necks expanded to .309. Primers: Dominion No. 8½.

Twenty of the selected bullets were weighed after sizing and lubricating. The



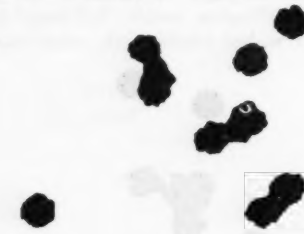
Group No. 4

lightest was 151.2 grains and the heaviest 151.7 grains. Total variation, one-half of a grain.

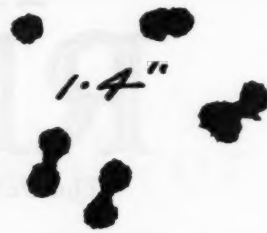
I imagine that the accuracy of this load is chiefly due to the fact that the 150-grain bullet (sized .311) was so tightly held in the neck of the case (sized .309) that the charge developed just the right amount of pressure to make it burn at its most efficient rate. This is, of course, only my own personal opinion, and may be very far from the truth. I should like to hear the views of a powder expert on the question. I was not able to make any comparisons with No. 80 powder and this bullet, as at the time I had none of this powder. At times it is very hard to get in this district. Shotgun powder is always to be had.

Unfortunately I can not now try this myself. I have the No. 80 powder, but no Springfield rifle. I disposed of the latter in a somewhat complicated trade last winter, which involved two single-shot rifles, a whole lot of tools and shells, and several pounds of block tin. And, believe me, I have had some fun out of that little collection.

Another shotgun lead load I used in my Springfield came under the heading of very reduced loads. It consisted of the 87-grain Belding & Mull cast bullet and only 6 grains' weight of shotgun powder. With the necks sized to .309 and the bullet only seated just far enough in to let the case get



Group No. 7



Group No. 6

a grip on it, this load developed sufficient accuracy to make quite a useful small-game and vermin load. I used this extensively on grouse one season, and found it quite a good killing combination. Also it was extremely cheap.

I have used an almost exact counter part of all these loads with very similar results in a .303 Ross, the only difference being that the equivalent bullet for the .303 weighs about 5 grains more and should be sized .3135 or .314 for the Ross, and .315 for the Enfield. This is, of course, only a general rule, as .303 barrels vary somewhat, Ross barrels usually running a bit tighter than the Enfields. If you have trouble seating bullets in a case neck two-thousandths small try a straight-line bullet-seater, such as is made by Belding & Mull. I have to admit I used to have a terrible time seating these tight ones accurately in a "long" tool; but now my troubles in that line are over.

The usefulness of shotgun powder is not merely confined to the small-bore high-power rifles. I recently read an article recommending it as a substitute for Schuetzen powder, the manufacture of which has recently been discontinued. I can not at the moment remember who was the author of this article, but have an idea it was Captain Askins. He found that first-class accuracy was to be had with shotgun powder in Schuetzen rifles; in fact, I am under the impression that he said the accuracy was every bit as good as with Schuetzen powder. In the large-bore line I personally have made trials with shotgun powder in reduced loads in a .45-90 single-shot Winchester and a .45-100 side-hammer Sharps. With the .45-90, a 350-grain bullet was used, cast one to thirty, and 10 grains of du Pont shotgun. This would give 5-shot groups at 50 yards averaging about an inch; and once it gave one as small as .6. And with the same load and same bullet, the Sharps, which weighs 21 pounds and has a barrel in factory condition, gives 5-shot groups averaging slightly less than an inch.

My personal opinion is that for the vast majority of reduced loads shotgun powder amply fills the bill, and has the great advantage of being much cheaper than No. 80. (Let me say here for the benefit of beginners that wherever I have mentioned shotgun power in connection with rifle loads, bulk shotgun powder is always meant. Dense shotgun powders should on no account be used in a rifle.) If we are to expect the younger generation to take up rifle-shooting

(Continued on Page 23)

# International Practice Equipment

By Lieut. S. R. Hinds



WHEN the military rifleman first has aspirations for a place on an International Free-Rifle Team his thoughts are of equipment. He assumes, American-like, that all that is needed for him to become a first-class free rifleman is to have placed in his hands one of the super-heavy-barrelled Springfield rifles. However, after a few attempts he finds that the free-rifle game is a somewhat distant relative of the military, and that a close acquaintance is not to be had by a mere formal introduction. To become really acquainted requires considerable time and practice, and practice in turn requires equipment that is both convenient and inexpensive.

Acquiring a Springfield free rifle with all the necessary appendages is, of course, the big step in equipping for the International game. The next thing in order is to learn to shoot with it—practice, in other words.

The practical difficulties are next encountered. To use the new rifle with the high-powered ammunition requires a range of at least 200 yards to get much benefit from the practice. Due to the distance to such ranges the average shooter is limited to one or two practice periods a week, which, even with lots of "dry shooting" at home, is not sufficient for one to progress at all rapidly in the game. Daily practice, using real ammunition, is the thing required to develop the aspirant into a full-fledged free rifleman. Even if daily practice with high-powered ammunition at the proper range were possible and actually done, the shooter would find in a couple of months or less that his brand-new pet barrel was becoming worn out and unfit for accurate shooting. Spending fifty dollars for a new barrel every few months does not appeal to most people, to say nothing of the expense of ammunition, if bought; or the loading up of shells if a reloading set can be used. Some means of getting daily practice at no great inconvenience or expense must be found if the international tyro is to get really into the heart of the game.

A .22-caliber free rifle would fill the needs as expressed above to absolute satisfaction. Unfortunately, there are but few such guns in the country, and these either are not available for purchase, or are so expensive that they might as well be out of existence. The 1924 Olympic team was supplied with a few such rifles, and even with the heavy daily .30-caliber practice the .22's were used considerably, and some very fine offhand practice indulged in by the team members. These guns were identical in weight, balance, and appearance to the caliber-.30 free rifle and fulfilled every requirement for convenient and inexpensive daily practice.

The purchase of a \$200 .22-caliber practice gun is to be passed up by even the most enthusiastic shooter. Owning a .30-caliber free rifle and the standard .22 rifle involves a considerable outlay, and the addition of a .22 free rifle as a means toward learning to shoot the .30 does not seem to be a sound investment.

Assuming that the International Team prospect has in his possession a Springfield .22 and a Springfield .30-caliber free rifle, an excellent practice gun can be rigged up by the exchange of some of the .30 parts and the addition of a few more. The result of such tinkering may not look like any kind of a gun that has been out before, but the essential weight, balance and equipment will be there, identically like the big brother .30-caliber.

The first step in the making up of the .22 is the interchange of guards, and placing of the set triggers on the small-bore gun. It is usually necessary to do a little chiseling on the stock to accommodate the kick-off and the "knife-blade" if the German type of set triggers is used. Other types may not require any cutting of the wood. The palm-rest attachment is a part of the guard on most guns, and by screwing on the ball and stem this part is finished.

The butt plate from the small bore is removed and the butt hook put in its place. Ordinary long wood-screws may be used to

attach it to the butt. Greater ease in changing the hook and plate from offhand to other positions can be provided by chiseling out the butt to place the metal inset as on the big gun. This gives exactly the same butt adjustments, and a method of change which saves a little time and considerable aggravation occasionally.

Various kinds of front sights, a few of which might be partially satisfactory, may be rigged up by the handy amateur. For this important part it is advisable to purchase a Lyman No. 17 front sight with interchangeable aperture and reversible post. The diameter of the hole in the aperture should be  $\frac{1}{8}$  of an inch, and the width of the post  $\frac{3}{32}$  of an inch for best results on the proportionately reduced International target. This type of sight costs about \$4 and is well worth this small outlay.

The miniature free rifle is now complete except as to weight and balance, which constitute about the greatest difference between the free and the military guns. It has been said by good authorities that the balance of the Springfield .22 can not be changed by external appliances without detrimental effects on the accuracy, but there has been at least one so changed that continues to shoot very well. It has made some very respectable scores on the 200-yard reduced International target, which is quite a test for any small-bore gun, balance or no balance.

To find the amount of weight to be added, the .30-caliber gun is weighed with all the free-rifle attachments, the transfer of parts made to the .22, which is then weighed. The difference in weights is the amount to be added. This weight is procured in the form of bars of solder 10 inches long, half an inch wide, and one-eighth of an inch thick. It takes from four to six bars, depending upon the length and weight of the .30 barrel.

The weights are placed around the barrel by taping securely at such position as shall give the same balance point that the big gun had before being stripped of its parts.

The accompanying picture gives an idea of the appearance of the .22-caliber practice free rifle made up in a few hours from the guns that are in the racks of most shooters having hopes of a place on an International Team, and at a total expense of less than \$5.

As mentioned above, this practice gun is intended to be used on convenient ranges, and therefore the distance from the firing point to the target may vary with each in-

(Continued on Page 35)

**G**UN-LOVERS have lost a noted craftsman in the death on November 11 of Sam Tobias, a gunmaker of the old school. It has been my privilege in the last three or four years to become intimately acquainted with this man, and to know him for his real worth. He was not only a mechanic, but an artist as well. Born March 12, 1864, he

## The Late Samuel Tobias, Gunsmith

By Edward F. Poland

of his friends he began to charge for his work according to the time it actually took to do it. He was a great admirer of John

hand rifling machine also was installed. This was the sum total of his machinery. The rest of his work was done in a small forge and with a file. Tobias was a master with a file, and would make things that would put some machine-made parts to shame. One of his friends, Charles Diller, who makes a business of rerifling barrels, once told me that the reason Sam would never put in any other

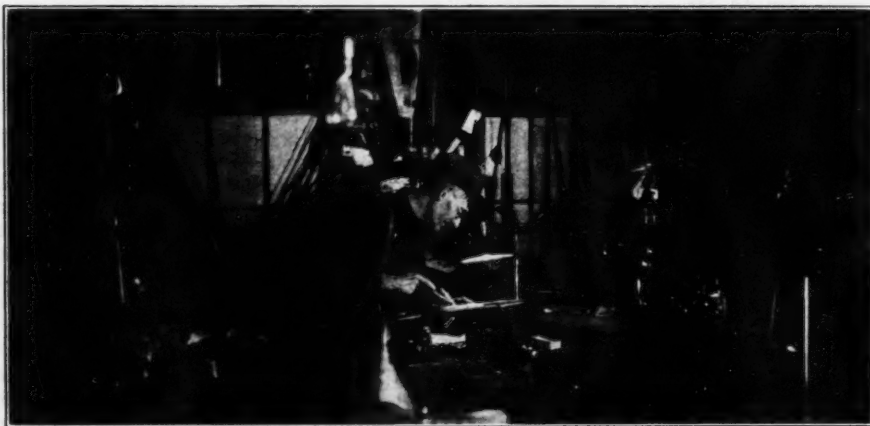
lived all his life on the same farm, where he also carried on his work. This farm is in Greene County, Ohio, about nine miles from Dayton.

Tobias told me at one time, when in a reminiscent mood, that he took up gunsmithing as a young lad in the days following the Civil War, when the shooters were just beginning to get away from the old percussion-lock guns. He began in a small way in his mother's kitchen, and later in a small shed which his parents had built for him. He finally branched out into blacksmithing, spending his spare time fixing guns. In his shop stands an old Sharps center-fire target rifle which he used in the shooting matches which were popular in those early days. Sam said that he got the idea that he could build a better rifle than those in use at that time, so he got a Sharps Old Reliable and put on a heavy octagon barrel, which he made and rifled himself, and also equipped the gun with a walnut stock which was checked and inlaid with ivory. The gun is a beautiful piece of workmanship, and with it Sam was able to hold his own with the best of marksmen hereabouts in those days.

In later years Sam quit the blacksmith work and devoted himself entirely to gun work. In the last three or four years his time was taken up largely with work on high-grade trap guns and in remodeling Springfield rifles, and there are quite a few samples of

Hackney, another of the old-time gunmakers, who kept a shop on East Third Street, in Dayton, and from whom Sam learned many of the secrets of his trade.

Tobias' workroom was a curiosity shop. Guns of every description were piled high around the place, mixed with tools, gun parts and what nots. Nevertheless, when Sam wanted a tool, or a gun which he had been asked for, he knew where to lay his hands on it. If the gun had been dismantled and laid aside he knew where every part was. I



was often amused to see someone come in and ask for a gun which had been left there months before. Sam would look over his spectacles at the man and place him in about a minute, and then bring out the gun. I often wondered how he kept those things in his head. If a visitor whom he liked dropped in he would stop all work and talk as long as his visitor remained.

Sam once told me a good joke on himself. A man had brought a cheap gun there to be

machinery was that in the time that others took setting up jobs and making tools for the work Sam could take a piece of steel and a file and do the job. In tempering, case-hardening and bluing guns, he had no superior. Most of Sam's knowledge of guns was gained through experience, and one look at a gun would tell him whether it would pay to fix it or throw it away and get a new one.

The accompanying pictures show some of Tobias' handiwork, in the form of two Springfield rifles, restocked and refinished by him.

He was often urged to bring his shop to town and has had some very good offers of places and assistance, but he refused them all, preferring to stay at the same old place. His visitors were many and from all walks of life, and

all received the same consideration. If his advice were asked on any question he would give it to the best of his ability, even to the taking of his time to show his point or prove an assertion, knowing that there would be no money made by the transaction. A man wishing advice on how to do some work on his own guns would get it free of charge even though it took an hour to explain how to do it.

He was a remarkable man, Sam Tobias,

his craftsmanship along these lines scattered all over the country.

The one thing which I think contributed most to Tobias' success was pride in his work. For this reason alone he was never able to keep an assistant for very long at a time, as he was exacting, and nothing would suit him if it were not as nearly perfect as it was possible for a man to make it. He was never able to accumulate much money until the last few years, when at the insistence

repaired and Sam bought the gun rather than do any work on it. He later sold the gun and lost money on it. Later on one of his good friends, a doctor from Springfield, came in with this same gun and Sam was obliged to fix it up.

Tobias' shop was equipped with a foot-power lathe, to which he later added a gas engine and put in a grinder and polishing head. A

and in his passing we lose one whose place can not be filled. And in closing I wish to say that I am glad it has been my privilege to have known him so well, and I shall always remember him as a man who achieved his lifelong ambition.



# The Shaker Aiming Device

By Col. D. C. McDougal, U. S. M. C., and Maj. W. H. Rupertus, U. S. M. C.

**T**RAINING Regulations 150-5, Section II, Sighting and Aiming, prescribe three distinct steps in the instruction of the recruit to teach him the correct alignment of the sights of the military rifle. This section starts the instruction with the aid of "the sighting bar" in an endeavor to illustrate to the recruit the correct aim. Although the principle of this instrument is identical with that for the military rifle with which the recruit is armed, yet this device bears no visible resemblance to the arm with which the recruit is accustomed. This device is also very awkward to handle, and in numerous instances the construction of same has not been uniformly made by instructing agencies. For this reason, this sighting bar has been eliminated from the preliminary instruction of the recruit.

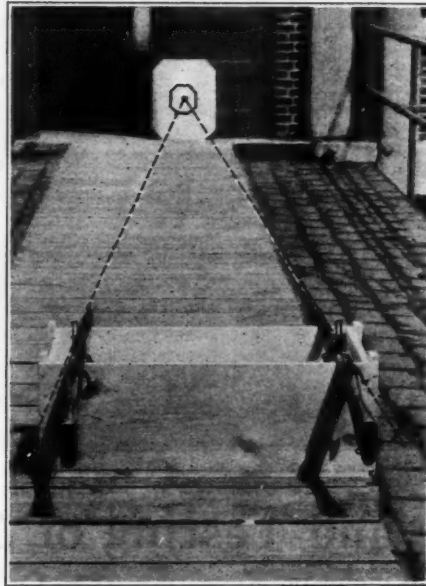
Section II also prescribes the use of a single rifle, placed in a notched box, by means of which the recruit is taught to properly align the sights of the rifle on a stationary as well as on a movable bull's-eye. The disadvantage of this device consists in its method of operation in that the coach and the recruit under instruction must constantly exchange places at the rifle in order to have the instruction progress satisfactorily. Incidentally, in this procedure the assistant coach operating the movable bull's-eye may inadvertently move the bull's-eye during this change of positions between the coach and the recruit.

The sighting bar and this latter aiming device are superseded by the so-called "Shaker Aiming Device," the description, construction and method of operation of which are described below. (The use of the Shaker device was found to be highly successful in Haiti in the instruction of the native members of the Gendarmerie d' Haiti.)

THE SHAKER AIMING DEVICE — DESIGNED BY CAPT. RICHARD SHAKER, GENDARMERIE D' HAITI, GUNNERY SERGEANT, U. S. MARINE CORPS

## Description:

The Shaker device is one whereby two rifles, solidly emplaced, are aligned so



that the line of aim of both rifles will converge on the same point at a distance of about 50 feet. It is based upon the principle of the check telescope on naval guns. It can be constructed from materials at hand and with tools readily obtainable. For details of con-

struction see attached drawings and photographs. A standard quartermaster (U. S. Marine Corps) clothing box, and a saw and chisel are all that is necessary for its construction.

## Method of Setting up:

Place the box in a convenient location for taking the aiming exercises, weighing the box down with rocks or sand bags if outdoors, or nailing it to the floor if indoors. Place two rifles, without slings, in the notches provided, barrels up, muzzles to the front, center of receiver over the rear notch; the line of sight will then converge at a point approximately 50 feet from the box. At this point set up a sheet of paper on which is a black bull's-eye cut from a 50-foot small-bore target. Final correction and adjustment of the line of sight of both rifles on this bull's-eye should be made by means of wind gauge and rear sight on both rifles. The rifles should be rigidly held in the notches and the box should be securely held or weighted.

## First Aiming Exercise:

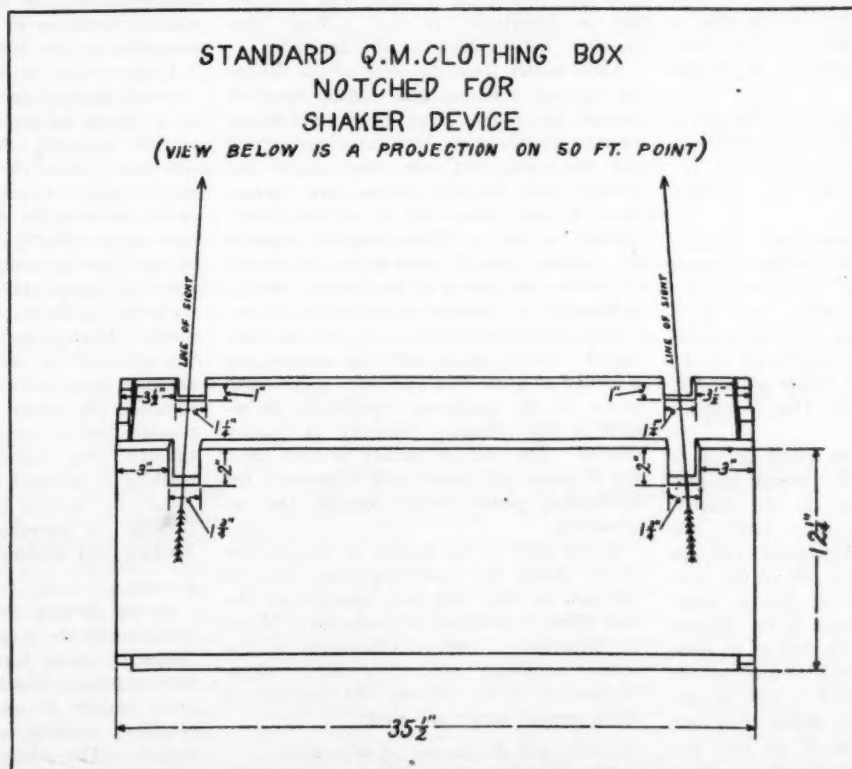
The coach having correctly aligned the sights of both rifles on the small stationary bull's-eye at a distance of 50 feet, takes the prone position at one of the rifles and directs the recruit to take a similar position at the other rifle. The recruit is then directed to

look through the sights of his rifle to see the correct alignment of the sights on the bull's-eye. While doing this the coach explains the correct line of sight.

## Second Aiming Exercise:

Having assured himself that the recruit has seen and thoroughly understands the correct method of aiming, the coach directs the recruit to look through the sights of the rifle and observe the method by which the coach aligns his sights on a movable bull's-eye. An assistant with a stationary disk, similar to that shown in the photograph, is stationed at the target prepared to move the sighting disk as

(Continued on Page 35)





A Corner of the Assembling Shop at the Winchester Factory

## The Manufacture and Testing of .22-Caliber Rifles

### Winchester Repeating Arms Co.

**EDITOR'S NOTE.**—In publishing a series of articles on arms and ammunition manufacture we could not overlook the small-bore game, and are pleased to present herewith the story of the justly famous Model 52 Winchester rifle, which has been secured through the courtesy of the Winchester company.

IN ITS catalogue of September, 1884, Winchester Repeating Arm Co. presented the following announcement: "The excellence of the regular .22 Short and Long cartridges for target and hunting purposes has become so well known that we are led to offer a Winchester rifle using them. It is made from and has the same outline as the Model 1873."

The mention of the Model 73 in the above extract carried the assurance to gun-lovers that this new departure in the line of a .22-caliber rifle was to be of the same standard as the parent model.

It is a far cry from those early days to the present time; but continuously through all the intervening years Winchester has been making .22-caliber rifles; and it is proposed in this article to give an account of the development and manufacture of the Model 52 Winchester rifle, which is probably familiar to most readers of *THE AMERICAN RIFLEMAN*.

The ultimate aim of the gunmaker is to provide an arm which will, through its performance, create confidence in the shooter. This is particularly true of a target rifle such as the Model 52 Winchester, and the process of manufacture of a rifle of this type is devised with this ultimate aim in mind. The idea of extreme accuracy in the finished gun must be carried back to each of its component parts, not only with respect to the mechanical contrivances, such as jigs and fixtures which are used in its manufacture, but also as regards the selection of the men who are to perform the hundreds of operations

which compose the process. The idea of quality must prevail in all the details. The story of how this is actually accomplished throughout the manufacturing shops may be especially interesting to those who have not had an opportunity to visit a large arms factory. Let us begin at the beginning.

There comes from the office of the designing engineer a sample gun. Many hours of thought have been given to its odd-shaped pieces. Sample parts have been made, tried and discarded, and new ones made and altered, until the final sample gun appears in its finished form with all of the "bugs" worked out of it. The designing engineer has applied himself relentlessly to the job of creating the gun in all its details. He has designed it to conform to a standard of accuracy which he believes can not be challenged. There comes with the sample gun a feeling of pride, and also some good sound advice to the producing organization in regard to the absolute necessity of quality control. The idea of quality is born here, and it grows and grows until it becomes the dominating power which controls the organization.

In the story of the process of manufacture let us choose the more important parts of the gun, as these will best demonstrate the skill which is required in producing a Model 52 Winchester. Before proceeding to the actual machining process of these major components let us consider the selection of the materials which are used.

#### *Purchase and Acceptance of Materials:*

All materials are purchased in accordance

with specifications detailed with respect to physical and metallurgical standards which have been determined by the designing engineer as most fitted to the work which the component will be called upon to perform; and all purchases of material are subject to inspection at the Winchester plant.

Upon receipt of material at the factory chemical analyses and physical tests are made in a testing laboratory equipped with most modern apparatus. Machining tests are likewise made before the material is released for manufacture. Inspectors go over the material, checking the dimensions and watching for surface defects. No material is issued to the manufacturing shops until a formal release is signed indicating that such material conforms in all respects to specified requirements. In the case of steel for major components, such as barrels and receivers, the accepted steel is stamped with a mark which identifies the vendor, and also with the test number, and as components so marked pass through the machining operations such marking is retained to identify the material should any defects develop. It is therefore possible to segregate all material of like marking and withdraw it from manufacture.

#### *Forging:*

In the forging shop one is at once impressed with the magnitude of the machinery. There are steam hammers pounding out the heavier pieces, drop hammers pounding out a great variety of odd shapes and upsetting machines swelling out the breech ends of barrels. The whole picture is impressive, with the sight of red-hot metal being pounded



The Action Proving Room

into shape by the terrific blows of the hammers. Beside the machine the man looks insignificant, but he is controlling the heavy mechanism by foot levers while he holds the hot metal between the forging dies. Field inspectors approve the setting-up of the tools before the forging hammers are allowed to produce in quantity. These inspectors examine the work in process, both visually and by the use of gauges.

#### Barrel:

The barrel is made of a drop forging of high-grade special gun steel specially tested for hardness before release for machining. The hardness test is made on each barrel by a Brinell testing machine. In such a machine a known pressure is applied to a hardened-steel ball, which is thereby forced into the surface of the barrel to a certain depth. The width of the depression made by this steel ball is examined with a microscope, and is a measure of the hardness of the metal. The softer the metal the deeper will be the depression and the wider will be its width. The hardness is held within predetermined limits. Through the use of such a testing machine we are reasonably sure of the condition of the barrel steel before we proceed with machining operations.

#### Barrel Drilling:

The drilling operation is performed on vertical drilling machines, with the barrel revolving at high speed against the drill. These machines are of special design, each spindle directly connected to its variable-speed motor. The drill which is used is of the one-lip type, with a hole through its entire length to permit the cutting oil to flow to the cutting tip. The cutting oil is fed to the drill under a pressure of about 900 pounds per square inch. Oil under such a pressure keeps the cutting tip free of chips and assures smooth, accurate drilling. Such an arrangement as this produces accurately drilled deep holes, a necessity in the gun-barrel process.

#### First Reaming:

The bore of the barrel is machined to its final size by a series of four reaming operations, each reamer removing a small amount of metal. The reaming operations are performed on barrel-reaming machines with floating holders. In such a holder the barrel is not held rigidly, but is allowed to shift, and the reamer may thereby follow the bore of the barrel which has already been established by drilling. The reamer is pulled through the barrel instead of being pushed through. Float reaming considerably reduces the possibility of the tool tearing the metal. Smooth cutting is accomplished by this method of reaming.

#### Turning and Grinding:

Following the first reaming operation the outside surface of the barrel is turned on lathes with a multiple tool set-up. Five tools are working simultaneously, controlled by a "former plate," which establishes the desired shape of the outside surface. Turning is followed by grinding on wet grinders. The grinding operation creates a smooth, uniform surface, accurately sized throughout its length. Snap gauges are used to check the diameters at various points.

#### Final Reaming:

The final reaming of the bore establishes the bore diameter of the barrel and is done with a reaming tool designed to remove a very small amount of metal and to produce a smooth, clean surface. The bore diameter of the Model 52 Winchester, for example, is .2175 inch. This size is maintained with less than .001-inch variation. To maintain uniformity in bore diameter and smooth surface requires expert skill in tool-making, tool heat-treating and tool grinding and stoning. Expert mechanics with from 25 to 35 years of experience have been selected for this work. Were you to talk with them you would be impressed with their sense of pride in maintaining tools which can accomplish

the exacting results which are required of these reamers. Through their many years of contact with the problems involved they have been able to develop the refinements of tool-making which are so important to the machining shops in maintaining accuracy.

#### Rifling:

The rifling operation on the Model 52 Winchester barrel is a fascinating one. To persons who appreciate mechanical contrivances it is particularly impressive. The machines are built especially for the purpose and are designed to combine revolving motion with reciprocating motion in such a way as to give the desired spiral cut. With the reciprocating motion constant, a change in the speed of revolution will produce a change in the spiral.

The rifling cutter is held in a holder known as a "rifling head," which is an intricate mechanism so designed as to slide through the bore of the barrel and provide a uniformly rigid support for the rifling cutter. The rifling head is secured to a long hollow shank through which the cutting oil is fed to the cutter. The rifling head is pulled through the barrel in its spiral path with the cutter protruding, the cutter being pushed out and supported by a small wedge contained within the head. At the end of the cutting stroke a stop on the machine pushes the wedge from underneath the cutter and allows the latter to recede into the head out of contact with the barrel during the return stroke of the spindle. At the end of the return stroke the wedge is again pushed into place, thus forcing the cutter again into its cutting position. The barrel is then indexed—that is, turned to the next position—and the next spiral groove is cut.

Much attention is paid to the fit of the rifling head in the bore of the barrel; and the heads are lapped into the bore to assure a snug fit. They must be glass-hard and perfectly smooth. The "hook" type cutter





Barrel Rifling. The Third Operator is Trying His Gauge in the Bore

is precisely ground and stoned to obtain the correct width of groove and the correct shape. The operator judges the performance of the cutter by the "feel" of the extremely thin ribbon of steel which is removed with each cutting stroke of the machine. Gauges are applied during the cutting to determine the depth and width of the groove. The diameter of rifling is .2225 inch and the twist is one turn in 16 inches, with six grooves .0665 inch in width. The width of land is .0454 inch. These dimensions are the result of accurate calculation supplemented by exhaustive practical tests over a period of years. Here again you will find mechanics of long service and experience assigned to the rifling of the Model 52 barrel.

#### Chambering:

The machining of the chamber to provide a seat for the cartridge in the breech end of the barrel is extremely important. The surface must be absolutely smooth and exact in size. Smoothness is necessary so that the fired shell may be readily withdrawn by the extractors. The size and shape of the chamber must be exact in order to provide suitable support for the metal shell at all points. Rough chambering is done by machines of special design, using high-grade lard oil as a cutting refrigerant. Due to the exact requirements the final chambering is done by hand. The men assigned to this work are selected as especially fitted for it. They must produce in each barrel a chamber which is smooth and of exact dimensions and shape. There is no tolerance allowed.

#### Leading:

The leading operation is a type of lapping with fine emery and oil. The barrel is held upright with a rod through the bore and hot lead is poured into the muzzle end, forming a lead cast on the end of the rod of about 7

inches in length and of the exact shape of the inner surface of the barrel. The barrel is placed in a holder on a leading machine, which is similar to a rifling machine, and the rod, with its lead cast, is secured to the spindle. The lead cast is moved back and forth in a spiral path through the bore and the operator charges it at each stroke with fine emery and oil. This smooths out the surface of the bore and diverts all of the minute reamer marks to the spiral path which the bullet takes when the gun is fired. Experience has shown that leading is a very important operation in the control of accuracy in shooting.

#### The Lead Test:

In addition to a rigid gauge inspection of bore and rifling, the barrels are given a "lead test" from breech to muzzle. A small lead slug is forced into the bore and upset so as to completely fill the bore in the same manner as will the lead bullet. The lead slug is then pushed slowly by hand from breech to muzzle and from muzzle to breech several times. By the feel of the drag on the slug the inspector is able to detect the minutest variation in the bore or in the rifling, with respect to either size of surface. In our opinion such a test is the most severe one to which the interior of a barrel can be subjected. Defects can be discovered by this test which are not discernible by the use of gauges. The Winchester Model 52 barrel must pass this test absolutely and without question.

#### Polishing and Browning:

Finish-machined barrels are sent to the polishing shop to be polished on the outer surface. This polishing work is done by operators who are especially skilled in this type of operation. The barrel is spun against

suitable polishing wheels and a uniformly smooth surface is thereby obtained.

Model 52 barrels are given an acid browning treatment requiring approximately five days. The color which is thus applied to the surface is a rich, deep brown-black, which very effectively resists rust. The development of this browning process is the result of many years' experience, and in its present form the process provides a black surface which is extremely rust-resistant. Barrels which have been browned are finally inspected for surface and for color, and if satisfactory are delivered to the finished-part storeroom ready for assembling into the gun.

#### Rear Sight:

The rear sight is an aperture peep located at the rear of the receiver. This is optically the correct position for this sight and it helps to promote accuracy because of the long sight radius secured. Accurate adjustment for both windage and elevation can be made by the use of milled wheels which change the adjustment one-half minute of angle for each click. This is the equivalent of one-eighth inch at 25 yards, one-half inch at 100 yards, etc. The leaf is graduated to read in yards from 25 yards up to 300 yards. The spring click attachment on the sight adjustment makes it possible to adjust the sight accurately at night or in dark indoor ranges. In the design of this sight accuracy was the primary consideration of the designing engineer, and cost was of secondary importance. It is a fact that this rear sight costs more to make than the receiver.

The rear sight may be rightly termed an instrument rather than a component of the gun. There are a number of components which compose the rear sight, each one of which must be accurately machined to accomplish the final exactness required of this



Profiling Machines

mechanism. The machining process of the rear sight involves many types of operations. There are many operations of milling performed on the various component parts. Odd-shaped cuts are done on profiling machines, and the drilling operations are performed on sensitive drill presses. The men who have been selected to perform these various operations have been chosen because of their ability to perform sensitive work with extreme care. The sight is assembled completely by experts and is properly adjusted for the functioning of its components before it is attached to the gun. Sights are not allowed to go to the assembling room unless they pass a rigid inspection for functioning.

#### Butt Stock:

The butt stock is of the semimilitary type, with pistol grip. It is made of American black walnut, cut from the log into blanks according to our specifications. Such specifications are in detail with respect to dimensions and grain and specify end coating to prevent end checking. These blanks are bought subject to inspection at the Winchester plant. All blanks are thoroughly kiln-dried in our own kilns and properly steamed to relieve internal strains. It is important that the blank be properly dried and be free from strain before proceeding to the machining operations.

Surplus wood is removed by sawing and planing, and the shape of the stock is established roughly by profiling. The butt end is milled for the butt plate and the butt-plate screw holes are drilled and counterbored. The cuts for the barrel and receiver are made on an inletting machine with six spindles. This machine is similar to a metal-profiling machine and the irregularly shaped cuts are

taken with the path of the cutter controlled by "former plates" made to the exact shape of the required cut. Turning machines establish the shape of the outside surface. For such a machine a "former" of cast iron is made to the exact shape required and is fastened in place on the machine. This former revolves slowly and is continuously in contact with a roller, which is rigidly attached to the cutting spindle. The cutting spindle is driven at very high speed, its in-and-out motion being controlled by the cast-iron former as it is fed along the length of the blank. The exact shape of the former is thereby reproduced on the stock, from butt to fore end.

The outside surface of the stock is rough-sanded on sand belts, but the final shape is established by hand shaping. Stock-shaping may be classed as an art. The men chosen to do this work have a definite sense of proportion, and with the use of scrapers, files and sandpaper they produce butt stocks of uniform appearance and with a smooth sanded surface. These shapers are guided in their work by metal jigs which fit into the important cuts and maintain the dimensions at such points as the barrel and receiver seats. Considerable attention is given to the smoothness of the surface which is the basis for the varnishing operation.

The same system of gauging is applied to the butt stocks as is applied to the metal pieces. The cuts in the wood must be of the required dimensions and shape, and must be accurately located to receive the metal parts which fit into them.

Following the shaping operation all stocks are given a final inspection. The various cuts are examined with suitable gauges with

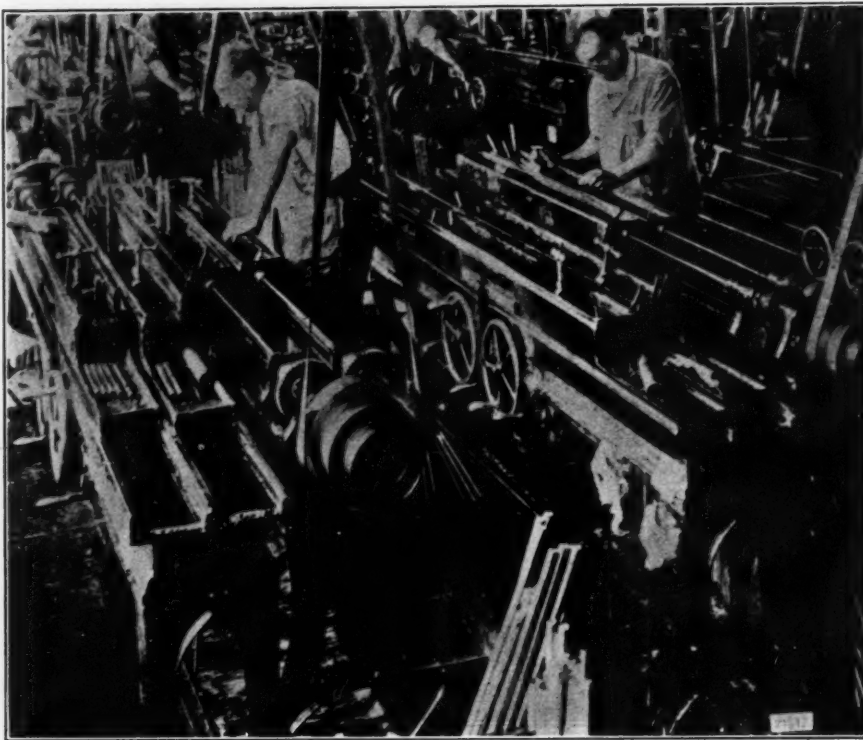
specified tolerances, while the surface is carefully examined for scratches, ridges and improper sanding. Stocks which pass this inspection proceed to the finishing room, where they are filled, shellacked and rubbed. Several coats of shellac are applied and the surface rubbed with pumice and oil to a smooth, velvet finish. In this condition the stocks are ready for assembly.

There are many other components of this gun which present interesting problems in machining due to their peculiar shapes, the dimensional accuracy required, etc. It is not possible in such a limited space to tell the story of all components, but suffice it to say that in all cases quality is the ruling factor. Doubtful components are scrapped by the inspectors without argument; and the producing organization realize very clearly that their job is to produce parts that fit their gauges. A 100 per cent inspection of all parts in the finished machine condition assures us that only acceptable components reach the heat-treating and finishing operations.

#### Heat-Treating:

The hardening and tempering operations are performed in accordance with written instructions from the chemical and physical laboratory. Cards specify the exact temperatures and detail the method of treatment. During the heat-treating process the control of furnace heat is accomplished through the use of modern pyrometers. The results of the heat treatment are inspected by means of Scleroscope Test, Brinnell Test, and endurance, fracture and filing tests. Any distortion of the component which may have occurred through the application of heat is remedied by expert straightening.





Barrel Reaming. Two Spindles in Operation on Each Machine

#### Finishing:

By the finishing operations is meant the necessary polishing, cornering and coloring which are applied to the various components. At this point in the process serial numbers are stamped on the receiver as an identification for the gun in its final assembling. The finishing operations are carefully inspected visually by comparison with established samples, and gauges are used in all cases where the finishing operation has been one intended to change a dimension. From this point the component parts move to a finished-part storeroom, where they are held until called for by the assembling shop.

#### Assembling:

The assembling of the Winchester Model 52 is done by highly skilled men selected because of their ability to understand the necessity for care in the adjustment of a gun. Special attention in assembling is paid to breeching and to firing-pin protrusion. Each breech bolt is fitted to a tight fit on a breeching plug representing the maximum-sized cartridge head, and is numbered with the serial number of the gun to which it has been fitted. It is for this reason that breech bolts should not be interchanged. It is our experience that tight, uniform breeching is a big factor in obtaining accuracy.

The various other components comprising the action of the gun are accurately adjusted by the assemblers. Extreme care is used in bedding the barrel and receiver in the butt stock. The action assembly is secured to the butt stock by the use of one large screw engaging the front end of the receiver. This tends to prevent any cramping of the action

or undue strain on the barrel when the latter is held firmly in place by the front band. All guns when finally assembled are subjected to four groups of inspection tests.

#### First Inspection:

At first inspection each gun is examined

visually for general appearance, etc. Actual action tests are made with dummy cartridges feeding through the magazine. The breeching is closely examined with head space gauges. The trigger pull is checked for smoothness and sharp release, and tested for weight of pull. The weight of pull is held between three and four pounds.

#### Action-Proving:

Guns which pass first inspection are sent to action-proving, where they must qualify to a very rigid action test. At this inspection the guns are operated with standard ammunition and examined for proper feeding, extraction and ejection. Guns are fired and the depth of the firing pin indent is checked.

Following the standard practice on all Winchester guns, a definitive proof cartridge, which develops a breech pressure considerably over maximum load, is fired, after which the shell is examined and the chamber gauged. The barrel and the receiver of the gun are then marked with the Winchester proof mark.

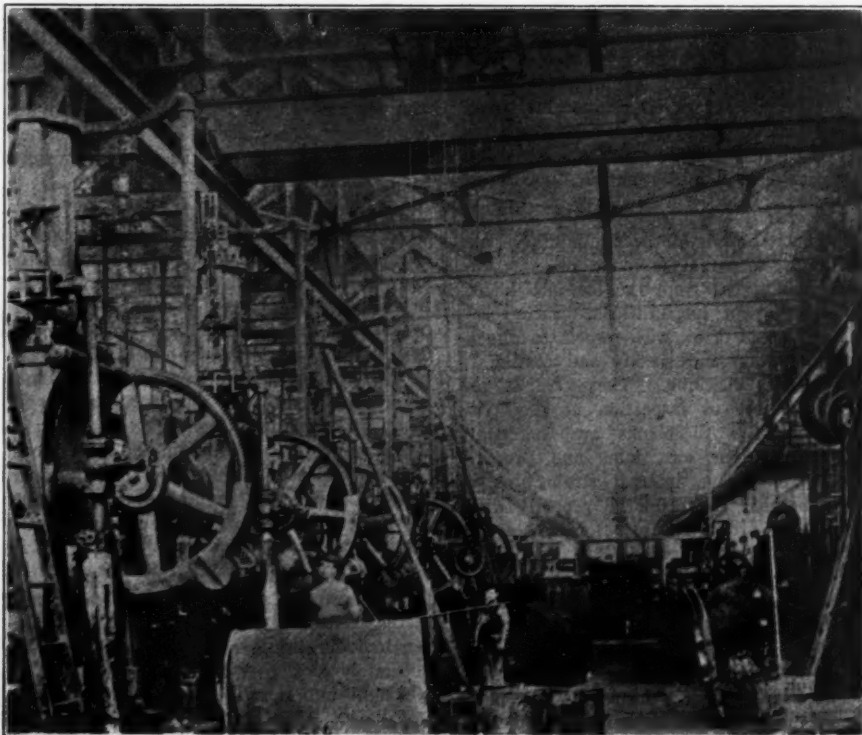
#### Targeting:

Sights are aligned to shoot point blank at 25 yards, after which a telescope is attached and the gun is shot for accuracy. All guns must group within one-half inch at 25 yards. Check inspection for accuracy is made at both 50 and 100 yards. All guns are shot from elbow-and-muzzle rest unless ordered otherwise.

#### Final Inspection:

Before the gun is finally approved for delivery inspectors thoroughly review it again, covering all the various points of the functioning of the gun; and in addition they

(Continued on Page 35)



One Corner of the Forge Shop



# The Handgun Hobby

By Carl H. Engelkamp

**T**HERE are three main considerations which confront the individual who takes a hankering to own a handgun—a desire which comes in some measure to every dyed-in-the-wool outdoor sportsman at some time in his life. These considerations are, first, the purpose for which the gun is to be used; second, the types of revolvers or pistols made which fit that purpose, and third, the cost of ammunition for same, and its availability in different locations.

There are three lawful purposes for which the handgun is adapted. The first use and the most serious one is self-defense, either at home or in the street. It is a sad commentary on our so-called modern civilization that self-defense with deadly weapons is necessary; but the long list of holdups, burglaries, murders, crime and violence of all kinds can leave no doubt in the serious thinker's mind that such is the case. Our lenient enforcement of the law and our reluctance to give the death penalty for crimes that deserve it have combined to make the criminal element despise our laws and laugh at our enforcement methods. The crime wave of today testifies only too well to this effect, and every decent citizen owes it to himself and the Government to help uphold the right of self-defense which the Constitution gives to every man.

The second use for the handgun is the one in which the average shooter gets the most pleasure. It consists in just "popping around." To walk into the open country, into the hills and valleys of the great outdoors, to shoot at tin cans and old bottles, to send a rabbit scampering over the hill with a volley of bullets—these are indeed rare pleasures to the true gun-lover. What matter if Mister Bunny escapes unscathed? It is the thrill of shooting at his fleeing form that counts. It is more real sport to give the game a chance to get away, by shooting at it with a handgun, than to throw a 30-inch circle of leaden pellets in its direction. The harder a game is, the more thrill there is in achievement; and when occasionally the fleeing form is stopped by the bullet, the thrill is infinitely greater than that resulting from a hit with a shotgun would be. For "popping around" the handgun is superior to a rifle. It is light and portable, and is not conspicuous as are the rifle and shotgun. It can be worn on any hike without interfering with climbing fences and going through brush, yet it is on deck when needed. It is harder to shoot accurately than a rifle, but for that reason a hit is more to be proud of. However, a proficient pistol or revolver shot can shoot better than a fair rifle shot, so the handicap is not as great as you might imagine.

The third use for the handgun, target-shooting, is one which requires the utmost

care and attention of the shooter. Great skill and accuracy are required to produce special revolvers and pistols to give the highest results. Target arms are finished more carefully in many respects than the common stock arms. Most of them are furnished with both front and rear sights adjustable for elevation and windage. The trigger pulls are adjusted so as to be exceptionally smooth and without creep. Target-shooting is really a science. Only constant and thoughtful practice will give the shooter the few points necessary to lift him from the mediocre class into the class of real experts. If you really aspire to be an expert shot join a revolver club in your city or town. Target-shooting is a fascinating game but is not as practical as outdoor shooting, as the man who does only target practice on a range shoots always at the same distance from the target, and therefore finds difficulty in estimating the range at unknown distances, and so can not allow for the trajectory of the bullet. An expert target shot is often at a loss to hit objects in the open for this reason. The well-balanced gun-lover will try to get as much out of both kinds of shooting as possible.

Having made clear, I hope, the uses to which a handgun may be put, I shall try to give in this article an unprejudiced opinion of the various cartridges and arms. Having been interested in small arms for a number of years, having myself tried many of the guns mentioned, and having listened to the opinions of the leading target and outdoor shooters in the vicinity of Cincinnati, I shall try to give as much information about these various arms and their ammunition as will be useful to the man contemplating the purchase of a pistol or revolver.

As a good small arm will last a lifetime with good care, it is folly to even think of buying a cheap gun, either American or foreign. Inaccuracy, failure to function, loosening of parts, and inferior material are characteristics of guns sold on a low-price basis. Such guns will not be discussed in this article. Only those made with care and skill, of finely finished drop-forged steel, backed by international reputations, will be considered. It is much better to wait until you can afford a good gun than to court disappointment by buying a cheap one. Good work can not be done with cheap tools.

The discussion in this article will be taken up in three sections, according to size of ammunition.

## SMALL-CALIBER ARMS

The cheapest as well as the most accurate of the small-caliber ammunition is the .22 rim-fire long-rifle cartridge. This cartridge has been given more attention by the ammunition companies than any other, with the possible exception of the .30 Government

cartridge. This wonderful little cartridge is well balanced and more accurate in a good target gun than any one can hold. Most of the world's record targets have been made with this cartridge. Though not a defense cartridge, it has more killing power out of a pistol than the .25 automatic cartridge. For "popping around" it is without a rival, because of its accuracy and low cost, the latter being slightly over a half-cent a shot. The special match .22 long-rifle cartridges made by the various companies under special names are considerably more powerful and accurate than the plain long rifle. These are known as U. S. "N. R. A.," Peters "Tack-hole," Western "Marksman," Remington "Palma," etc. As they cost no more than plain long rifles there is no need for using the latter. The short and long cartridges will function in the single-shot pistols and revolvers, but will not operate in the automatics. They may be loaded in singly, however. Shorts are not recommended as a steady diet, however, in guns chambered for the long-rifle cartridge. By all means beware of the old smokeless variety of .22-caliber cartridges if you value your gun. Their use will invariably ruin a gun. Always use Lesmok, Semismokeless or the new Smokeless with non-corrosive primer.

The makers of these latter claim that if the shooter cleans his gun thoroughly with hot water before starting to use these cartridges, and if he uses no other brand, the barrel may be left without cleaning for weeks and months. I have not tried these cartridges yet for shooting qualities, so can not say much about them.

Arms for the .22 long rifle are made by Colt, Smith & Wesson and Stevens, and until recently, by Reising, and are all reliable. The Colt line consists of the Police Positive Target Revolver, the Automatic Pistol and the new "Camp Perry" Model Single-Shot Pistol. The revolver is now made with a heavier frame than formerly, and a better grip. It is a fine, accurate gun.

The Automatic Pistol is a fine arm for "popping around," because of its ten-shot magazine and rapidity of fire. Extra magazines may be carried, so that reloading is made less frequent, and a tin can kept rolling with the least amount of trouble. This is the only caliber of automatic which can be used rapid-fire to a great extent without devastating effect upon the pocketbook of the party of the first part.

The Reising automatic has a little better grip than the Colt, and shoots just as accurately. As the magazine has no thumb button to take the tension of the spring while loading, it is considerably more difficult to load. The Reising has an outside hammer, while the Colt is hammerless. Both guns

have target sights, and for target accuracy are surpassed only by the Colt and Smith & Wesson Single-Shot Pistols.

The new Colt "Camp Perry" Single-Shot Pistol has been on the market for a comparatively short time. It is made to weigh and balance as much like an Officers' Model target revolver as possible, so that the shooter who uses the latter gun can use the pistol without having to adapt himself to a different grip. The action is delightfully smooth and easy. The gun looks very much like the Officers' Model, as it is made on the same frame. This gun should become very popular with the experts, especially those now using the Officers' Model.

Smith & Wesson have two guns for the .22 rim-fire cartridge. The .22-32 Target Revolver, popularly known as the "Beakert Model," is an accurate arm, with fine action, but is a little too light and the grip does not fill the hand as it should; at least that is my opinion, though some very fine targets have been made with this gun. It should be carefully compared with the Colt as to feel and balance before buying, if you have definitely decided upon the revolver as your choice. For all-around shooting with the .22 caliber I prefer the automatic; but you may think differently.

Smith & Wesson have discontinued the manufacture of their "Perfected Target Pistol," which has won almost all the records in the small-caliber pistol class for many years, and have substituted their new "Straight-Line Single-Shot Pistol," which is built on the general lines of an automatic pistol. With the old "Perfected Model" most of the users doctored it up in some way, such as by changing the grip and putting weights on the barrel to make it hold steadier, but with this new model the makers hope to have overcome these deficiencies. The hammer moves in a straight line parallel to the bore, which gives the pistol its name. For general balance and feel it is much superior to the old model. It is regularly furnished with Patridge sights, which are generally considered superior to a bead sight for target work. They are not as good for outdoor work as the bead sight. Most target arms can be supplied with either sight you desire. The use to which you will put the gun will determine your choice. Whether you choose the Smith & Wesson or the Colt Single-Shot Pistol will depend upon the way the grip feels in your hand, and the way the gun balances for you. Either one is far more accurate than any shooter can hold. Compare them carefully before buying.

The only other single-shot pistol that is worth owning is the Stevens. This is a good and accurate gun at a considerably cheaper price than that of the above-mentioned pistols. If you must have a cheap gun you can not find a better buy than this pistol. It has a fine, accurate barrel, but the lack of fine elevation adjustment puts it below the Colt and Smith & Wesson pistols for extremely accurate work.

A little higher up on the scale of calibers we come to the .25 automatic car-

tridge. There are only two quality pistols made for this cartridge—the Colt automatic and the Mauser automatic pistol. Although quite popular, this cartridge is not worthy of real consideration for self-defense. Numerous evidences of its lack of stopping power have been recorded. Unless hit in the heart or brain a desperate man will become more desperate and deadly if shot with this small and weak cartridge. Its existence is justified only by the fact that because of its size it can be carried all the time, and may be on deck when a larger gun would not be. The Colt gun for this cartridge is a finely made little gun, only 4½ inches long and weighing 13 ounces. The barrel is only 2 inches long.

The Mauser is larger and heavier, with a longer barrel. It is not as nicely finished as the Colt, but seems to shoot quite well for a small gun. Because of their short barrels, small grips and hard trigger pulls these guns are not accurate beyond about 20 feet.

There are various guns made to take the several different cartridges of .32 caliber; but with the exception of the .32 Winchester, more commonly called .32-20, these cartridges are of use chiefly because they can be shot in small, easily carried arms. They have neither the accuracy of the .22-caliber, nor the shocking power of the larger loads, yet the .32-caliber is without doubt the most popular caliber on the market from point of number of guns sold. This is due to a mistaken idea that the .32 is very deadly; also because most of the cheap guns are made in this caliber. For carrying on the person there is an excuse for the .32 because of its easy portability; but as the majority of these guns repose peacefully year after year in a dresser or desk drawer, I can not see where a .38 Special or larger caliber would be a disadvantage.

The .32 short or .32 Smith & Wesson has a bullet of 85 grains' weight and a muzzle velocity of 734 feet per second, with muzzle energy of 41.5 foot-pounds.

The .32 Smith & Wesson Long has a bullet of 98 grains, muzzle velocity of 785 feet and energy of 123 foot-pounds. The .32 New Police has about the same energy, but the bullet has a flat nose, so is slightly more deadly.

The .32 automatic is more powerful than the short or long. Its bullet weighs 74 grains, the velocity being 970 feet; energy 155 foot-pounds.

Smith & Wesson make the .32 Safety Hammerless Revolver for the .32 short cartridge only. For pocket use this gun is very well adapted. It is light, weighing only 14¼ ounces, and has no hammer to catch in the pocket. It has a very hard trigger pull, and also a grip safety. Because of its short barrel and hard trigger pull it is very difficult to shoot accurately except at a close range. The .38-caliber gun of the same type is much to be preferred because of its greater punch.

Smith & Wesson also make the "Hand Ejector" Model and the "Regulation Police,"

with plain and target sights and handling both the long and short .32-caliber cartridge.

The Hand Ejector is a hammer type revolver weighing, with a 3¼-inch barrel, 18 ounces. This gun is an accurate and finely made arm. In the longer barrels, 4¼ and 6 inches, it is a nice gun for outdoor shooting at fairly short ranges. The short barrel makes a handy pocket gun.

The Regulation Police is a beautifully proportioned gun, also for the .32 long or short. It differs from the Hand Ejector in the fact that it is made with a square butt grip, while the Hand Ejector has a round butt.

The Target Model is reputed to be very accurate, but for some reason these guns are not very popular with target-shooters.

Colt makes the Police Positive Revolver, plain or target, and the Pocket Positive, for the .32 long, short or New Police cartridge. The Police Positive is also made for the .38 Smith & Wesson and the .38 Police Positive loads on the same frame. The target model is built upon the same frame as the gun shooting the .22 long-rifle cartridge, mentioned before. The Police Positive was at one time the official arm of most of the police forces of the country, and still is used by some of them. The large proportion of these organizations, however, found these guns to lack sufficient punch for their purpose, and have adopted the Police Positive Special and Army Special revolvers, taking the .38 Special cartridge.

The Pocket Positive in the 2½-inch barrel weighs 16 ounces, and is handy for pocket use. It is a hammer type of revolver.

There are three automatic pistols which are adapted for the .32 automatic cartridge. They are the Smith & Wesson automatic, made in only one caliber, the .32; the Colt Pocket Hammerless Automatic, made in .32 and .380 calibers, and the .32-caliber Mauser Automatic. The Savage and Remington automatics, made in .32 and .380 calibers, have been discontinued.

The Smith & Wesson automatic is a finely made, beautifully finished arm, with smooth walnut grips and the Smith & Wesson gold medallion. This model was made in the .35-caliber some years ago, but was discontinued. The present model has a grip safety which is under the trigger guard and is pressed by the third finger when the gun is fired. There are no other safeties on it. A good feature is a catch on the side which releases the tension on the recoil spring, so the first cartridge may be thrown into the chamber without having to pull the slide back against the recoil spring, which takes a considerable pull in most automatics. In this gun the slide is very easy to draw back when the catch is pressed, making this arm more suitable for women than other automatics. It has a lock which prevents the gun from being fired when the magazine is removed, a feature which adds to its safety. It is a flatter gun than the Colt.

The Colt pistol of the same caliber is a fine-looking and smooth-acting little gun. It is the best seller of the .32 automatics. It



is very reliable and quite accurate. As this gun is made in the .380 caliber—same size, same weight, and same price—I do not see why people will buy the .32, as the .380 is superior in punch and killing power. This gun in either caliber sells for \$20.50.

The Mauser .32 automatic pistol is not as reliable or as good looking as the Colt. Although well made, I would not recommend it, as the difference in price between the Colt and it is not enough to outweigh the difference in shooting qualities. Also being of foreign make the parts would be harder to obtain than those for an American gun.

The best of the .32-caliber cartridges is known as the .32 Winchester, or more commonly, the .32-20. This is much more powerful than the .32 automatic cartridge, having a bullet weight of 115 grains in the low power smokeless load, with a velocity of 954 feet per second and a striking energy of 232 foot-pounds, against 144 foot-pounds for the .32 automatic. With its flat nose, this bullet has a killing power equal to or slightly greater than that of the .38 Special. Its speed, almost 100 feet per second greater than that of the .38 Special, makes it a fine outdoor cartridge for long ranges. It is not quite as accurate as the .38 Special.

Smith & Wesson make their revolver for this caliber on the Military and Police frame, the same frame as used in their .38 Special. It is made in both the plain and target guns. The plain type is made in 4-, 5-, and 6-inch barrel. The target gun is made only in the 6-inch barrel. Like all Smith & Wesson arms, these are beautifully built and finely finished. The Colt guns for this cartridge are the Single Action, the Army Special and the Police Positive Special. They make no target arms for this cartridge. These guns weigh slightly more than the .38 caliber on the same frame, because of the smaller bore. The Police Positive Special Revolver in the 2-inch barrel will make a dandy pocket gun for this cartridge. It weighs about 21 ounces and is 6½ inches long.

For outdoor work the 6-inch Army Special or 7½-inch Single Action are to be preferred because of their greater weight and better grip.

The Luger Automatic, made in Germany and the most popular foreign gun in this country, comes in two sizes—7.63 mm. (.30-caliber) and 9 mm. (.35-caliber). The .30 has a bullet of 93 grains and a velocity of 1,175 feet per second. The 9 mm. has a 125-grain bullet with speed of 1,070 feet per second. The 7.63 mm. is an accurate, flat shooting load, with a penetration of 10 inches of pine. The 9 mm. is not as accurate or dependable as the 7.63 mm. This gun is very much overrated in this country. Many people think it is very deadly, but because of its sharp-nosed bullet it does not approach the .44, .44-40, and .45-caliber revolver loads as a killer. The gun has a good grip and shoots quite accurately, but it has a bad habit of jamming quite frequently. It has neither the compactness and flatness nor

the killing power of the .38 Colt automatic pocket model, which has a flat-nosed bullet and is a very reliable gun. I will say more of this gun later. The Luger is quite thick at the breech and has not the finish or action of the American automatics. On the whole I would not recommend this gun, as either the .38 or .45 Colt Automatic is much superior in shooting qualities, punch and compactness.

#### MEDIUM-CALIBER CARTRIDGES

In the medium-caliber class we will consider all cartridges commonly called .38 caliber. These range in actual size from the .380 automatic, with a diameter of .357 inch, to the .38-40 Winchester, with a diameter of .400 inch.

The .38 Short or .38 Smith & Wesson and the .38 Colt Police Positive have about the same ballistics. Smith & Wesson make two revolvers to take the .38 Smith & Wesson cartridge—the Regulation Police .38 and the Safety Pocket Hammerless. The latter gun is similar to the .32 Smith & Wesson Safety Hammerless mentioned before except that it is slightly larger, and the cartridge has a little more punch. The Regulation Police is a nice-looking, finely proportioned little revolver, weighing only 18 ounces, and is 8¼ inches long with 4-inch barrel, which is also the length of the Pocket Hammerless .38.

There is only one revolver especially made by Colt for these two cartridges, and that is the Police Positive .38. All revolvers taking the .38 Special cartridge will handle the .38 Short Colt, but will not take the .38 Smith & Wesson cartridge. The .38 long Colt is a more powerful cartridge than the short Colt. It has a velocity of 772 feet per second and energy of 198 foot-pounds, against 608 and 107, respectively, for the short Colt. It also can be shot in any gun handling the .38 Special. It is fairly accurate at short ranges.

We now come to the best-developed, best-balanced and most accurate center-fire revolver load made—the .38 Special. For target work its accuracy in either full or mid-range loads is surpassed by no other revolver or pistol cartridge. This load is the nearest to an all-around cartridge that can be had. Its accuracy makes it superb for either popping around or target-shooting; and it can be stretched into the man-stopper class if one reloads. The factory loads have plenty of energy, but for strictly self-defense are a little too penetrating—that is, they have a tendency to pierce the body and deliver much of their energy upon the background.

By reloading either the special flat-nosed bullets made by the Ideal company and others, or by taking the mid-range bullet and loading the full charge of powder behind it, the .38 can be made vastly more effective. This information is only for the man who wants to be certain that the burglar or bandit will not shoot back after being hit. It is fitting that so accurate and fine a cartridge as the .38 Special should have very good guns made to handle it, and

such is the case. The target revolvers in this caliber are made by both Colt and Smith & Wesson, and are as fine and accurate as human skill and science can make them.

The Colt Target Revolver, known as the Officers' Model, is made in 4½-, 6- and 7½-inch barrels. Furnished with adjustable front and rear sights, either bead or Patridge style, this revolver is superb in accuracy, smooth of action, and delightful to shoot. Many world's records have been made with this arm. For target-shooting, the mid-range cartridge, which is made with a flat-nosed bullet and is loaded with a lighter charge of powder than the full load, is the favorite of many shooters because of the clean, sharp hole it punches in the target. For outdoor shooting the full-load cartridge is preferred because of its longer range. The nearest approach to an all-around handgun is found in the 4½-inch Officers' Model. At 20 yards this gun shoots as accurately as the longer-barreled guns, and so can be used in official target-shooting. Because of its weight of 32 ounces it comes in the class of pocket revolvers, and so can be shot in pocket-gun matches. It shoots accurately outdoors, having less range than the longer-barreled guns, however. It can be carried in the pocket in case of need, which can not be done with the longer guns. If I could have one handgun and no other, this is the one I should choose. As I don't have to limit myself to one gun I prefer the 7½-inch length for both target and outdoor shooting. Many people prefer the 6-inch. It is a matter of taste. Try the feel of all three and you can tell which one is best for you. For outdoor shooting the 7½-inch is superior in range. At target all three shoot so nearly alike that it is a toss-up among them.

The Smith & Wesson Military and Police Target Revolver is a splendid gun, with beautiful action and shooting qualities. It comes only in the 6-inch barrel, which leaves the Colt 4½-inch Officers' Model no competition as a combination pocket and target gun. The Smith & Wesson gun is 1 ounce lighter and ¼ inch shorter than the 6-inch Colt. In balance, trigger pull, and accuracy it leaves nothing to be desired. It is used by many of the country's finest shots. The grip is smaller and thinner near the top than that of the Officers' Model, and does not fit my hand quite as well as the grip of the latter gun. Many shooters think differently; so you will have to take your choice by the way the gun feels to you. Either one will give you long and satisfactory service, the accuracy of either being much better than one can hold.

The non-target revolvers made for this cartridge are the Colt Army Special, Police Positive Special, and Single-Action Army; and the Smith & Wesson Military and Police Model, round or square butt.

The Army Special is the same as the Officers' Model without the target sights. It is made in 4-, 5-, and 6-inch barrels. It is a fine, accurate gun for general use where a target gun is not desired. It is minus the



checked trigger and backstrap, and the hand-finished action of the Officers' Model.

The Police Positive Special is the official police revolver in many cities. It is furnished with 2-, 4-, 5-, and 6-inch barrels. The 2-inch barrel is a good pocket gun, being only 6½ inches long and weighing only 21 ounces. Its accuracy is sufficient for all practical purposes for which it is intended. It is the most portable revolver of its power made. In the longer barrels this gun is not as well balanced as the Army Special, and because of its lighter weight can not be shot as accurately. It weighs about 12 ounces less, and is three-quarters of an inch shorter than the Army Special of the same length of barrel.

The Single-Action Colt has just recently adopted the .38 Special as one of its regular calibers. It is heavier than the Army Special, and not any more accurate. In the 7½-inch length it should make a good outdoor gun because of its longer range. In my opinion the Single Action is better adapted to the larger and more powerful cartridges, as one of its greatest advantages is the way the curved grip slips back into the hand and takes up the recoil of heavy-caliber loads, without hurting the hand of the shooter as many of the double-action guns do. However, this gun will no doubt be very popular in the .38 Special, as many shooters prefer the Single Action to any other revolver. In the .38-40, .44-40, .44 Special and .45 calibers the Single Action has advantages which no other gun possesses; but I can not see its advantages in a comparatively light load like the .38 Special.

The Smith & Wesson Military and Police Model is a fine, accurate gun, and is 4 ounces lighter than the Army Special. It is a good all-purpose gun, and should be compared with the Army Special as to grip and balance before choosing either.

The .38 Automatic Colt cartridge has the highest velocity of any American handgun cartridge. Its energy is second only to that of the .45 Colt Revolver cartridge loaded with 40 grains of black powder. It has a penetration equal to 10 inches of pine, and a speed of 1,175 feet per second. Its muzzle energy of 398 foot-pounds makes it a very deadly and long-range cartridge. Its slightly flat nose increases its killing power.

The Colt .38 Automatic Pistol handling this cartridge is made in two models—the Military Model with a 6-inch barrel, a weight of 38 ounces, and a length of 9 inches; and the Pocket Model, with a 4½-inch barrel, a length of 7½ inches over all, and a weight of 32 ounces. This latter gun is the most powerful and deadly pocket gun made. It is the only really powerful gun which can be carried in the pocket conveniently. It has no complicated safety devices, being equipped with an outside hammer, whose half-cock position is its only safety. It can be cocked while drawing from the holster or pocket, and from then on is as fast as any gun made. The visible hammer clearly shows whether or not the gun is cocked. For strictly outdoor use the Military Model is

to be preferred, but the pocket model is a better all-around gun. For sweet simplicity and ease of taking apart this gun leads all the automatic pistols. Large, strong parts, and few of them, combine to give this gun the reputation of being the most reliable and rugged automatic made. Its high price—\$42.25 at the present time—keeps it from being as popular as it deserves to be.

#### LARGE-CALIBER CARTRIDGES

The .38-40, or .38 Winchester, cartridge really belongs in the large-caliber class, as it has a diameter of bullet of .400, and so its name is misleading. It has a theoretical energy of 386 foot-pounds, second only to that of the .38 Colt Automatic. It has a bullet of 180 grains' weight, and develops a speed of 983 feet per second from a 5½-inch barrel, which is greater than that of any other standard revolver cartridge. Its weight, its flat nose, its large caliber, and its speed make the .38-40 bullet extremely deadly, it being considered by some even more deadly than the .45 caliber, except the black-powder load. It is a fine outdoor cartridge, its speed and weight of bullet making it hold its power for long distances. There are only two revolvers made for this cartridge, and both are of Colt manufacture. Smith & Wesson claim this cartridge is not adapted for revolvers, as it was originally a rifle load, and is loaded with rifle powder by most factories. However, it seems to give excellent results in handguns. Smith & Wesson make the same criticism of the .44-40 also.

The Single Action and the New Service Revolvers are both adapted to this load. The New Service revolver is double action, and its grip seems too large for me. It is a strong, rugged gun, and has many admirers. The Royal Canadian Mounted Police use the New Service in the .45 caliber as their standard arm. With 4½-inch barrel it weighs 40 ounces, and is 9¾ inches long.

The Single Action is the favorite of the old West, and is the standard arm of the Texas Rangers. Far from being obsolete, its popularity is increasing from year to year. It has several features which make it the popular arm that it is. It is strongly built and will withstand rough use and lack of care better than any other handgun. For outdoor use in the sandy country it will function where automatics will jam and double-action guns tie up from getting sand in the mechanism. In shooting from horseback the single-action feature prevents a rider from getting excited and discharging the gun accidentally if his horse rears. This has often happened with automatics and double-action guns, but with the Single Action the hammer must be pulled back for each shot, so more than one shot at a time is impossible. In large-caliber double-action revolvers the recoil tends to hurt the shooter's hands after a few shots, but the Single Action grip is such that it slides down into the hand, and the gun can be shot many times without hurting the hand.

The Single Action can also be used as a

club if necessary. The heavy ejector rod can not be injured. The New Service cylinder pin is thin and would likely bend and tie up the gun if used as a club. For accurate hits, not merely emptying the gun, but hitting something, some find that the Single Action is as fast as, or faster than, either double-action revolver or automatic in large calibers. The recoil makes it necessary to pull the gun down level after each shot with any of these guns, and they tend to climb out of the hand after a few shots rapid-fire. The Single Action, however, recoils straight up, and the thumb is on the hammer, while the gun's weight tends to bring it back level and ready for another shot. This type of revolver has stood the test of time and is still popular, so its merits are undoubtedly recognized. After once getting used to handling it, most shooters will cultivate a liking for the Single Action Revolver.

The next size of ammunition we come to is the .41 caliber. This load was quite popular in the West in the early days, but is obsolete now, except in the .41 rim-fire short for the Remington Derringer. The Short Colt and Long Colt .41-caliber center-fire cartridges are not adapted to any of the modern guns. Colts used to make the Single Action and the Army Special for this load, but have discontinued these at the present time. The .41 Rim-fire Remington Derringer is still popular as a defense weapon. It is the most deadly extremely small arm made. It holds two cartridges, furnished only in black powder. It has two barrels, one above the other, and the hammer fires each one alternately. It weighs only 11 ounces and easily fits into the vest pocket. It has more punch than the .25 automatic and is considered very deadly at close range. It is hard to cock, and is not an accurate gun, but for close work it is accurate enough. It can be carried when no other gun would be, because of the Derringer's small size.

We are now approaching the .44-caliber class. The first of these is the .44 Special. This is considered the most accurate of the large-caliber cartridges; so much so that both Colt and Smith & Wesson make target revolvers for it. It has a bullet weight of 246 grains in the full-load cartridge, a speed of 755 feet a second, and an energy of 311.5 foot-pounds. It is very accurate, although many shooters can not do good work with it because they flinch at the recoil, which is considerable. Its machine-rest accuracy is nearly equal to that of the .38 Special, however. It has a rather slow speed, so is not extremely good at long-range work. The cartridge companies have discontinued the mid-range load for this caliber, which is a pity, as it made a fine target load. The .44 Russian cartridge makes a good sub-load for this gun. It has a bullet weight of 246 grains, the same as the .44 Special, a speed of 706 feet per second, and a theoretical energy of 272 foot-pounds.

Colt makes the New Service for this cartridge in both plain and target models, and also the Single Action. Smith & Wesson also make their Military Model in both plain and

target models for this load. All these guns are accurate and nice working and will give good results for those who acquire the knack of shooting heavy loads accurately. Many shooters who make fine scores with a .22 pistol, or the .38 Special target revolvers, can not shoot nearly so well with the .44 Special, although it is capable of just as good scores as the two others. The heavy recoil causes flinching.

Next on the list is the .44 Winchester, or .44-40. Originally a rifle load, Colt finally made their single-action revolver for this cartridge so that the settlers could use the same ammunition for both rifle and revolver. This load was very popular in the early days of the West, and still is. It has a bullet of 200 grains, a speed of 918.8 feet per second and an energy of 375 foot-pounds. This load is very deadly because of its speed and flat-nose bullet. It has less penetration than the .45 black-powder load, but has more tearing effect than the former. It is fairly accurate and has enough speed to hold up well at long ranges. It is handled only by the Colt New Service and Single-Action Revolvers. These are furnished in various lengths of barrels, the New Service in 4½-, 5½-, and 7½-inch lengths, and the Single Action in 4¾-, 5½-, and 7½-inch lengths. For general purposes the 4½- and 4¾-inch lengths are preferable, because of compactness and ease of handling.

The 5½-inch lengths are no more accurate, and the difference in length makes them a little slower to handle. For extremely long-range shooting the 7½-inch barrel has some advantages over the shorter barrel.

The next and last number on the program is the .45-calibers, the automatic and the .45 Colt cartridges. The .45 automatic cartridge is the service small-arms cartridge of the United States Government, and the arms companies were invited to submit an automatic pistol to handle the cartridge. After rigorous tests, which consisted of firing the arms for long periods under different conditions, the Colt Automatic was selected as the best, and after a few changes in accordance with Government specifications the arm was adopted as the official arm of the Government. It saw service in the World War, and was much feared by the German soldiers. It established a reputation for stopping power and deadliness. Colt and Smith & Wesson made revolvers for the .45 automatic cartridge. These were much sought after by the men in the service, who in many cases preferred them to the automatic because of their reliability under conditions which would tie up the automatic.

This cartridge is made in two weights of bullet—200-grain and 230-grain, the latter being the Government load. These loads have a speed of 910 feet, and 809 feet per second, respectively, with an energy of 368 and 335 foot-pounds. The bullet is round-nosed, and is not designed for much shocking and tearing effect. However, its caliber is large enough to make it effective as a man-stopper. The commercial .45 automatic pis-

tol is superior in finish and smooth action to the service arm. It is very popular, and the sales are increasing each year. It has a nice grip and balance, and seems to shoot fairly accurately. Its trigger pull is not all that could be desired. The gun weighs 39 ounces, is 8½ inches long, and holds seven cartridges in the magazine. Equipped with grip-safety, thumb-latch safety, and visible hammer, it is as safe as an automatic can be, except that it has no device which prevents the cartridge in the chamber from being fired after the magazine is removed. This one feature would save quite a few lives each year.

The Colt Service Revolver for the .45 automatic cartridge is not made for retail selling since the war. The Smith & Wesson revolver for this cartridge, however, is sold, and makes a splendid gun in this caliber. It is made only in the 5½-inch barrel, and weighs 36¼ ounces. By using the semi-circular three-cartridge clips the rimless cartridge can be shot, ejected, and reloaded in this gun nearly as fast as in the automatic. There is also an Auto-rim cartridge made for this gun which makes it unnecessary to use the clips. The gun has a light, snappy double action and a good trigger pull. Except for compactness, it is preferable, in my opinion, to the .45 automatic.

The last cartridge on the list is the old reliable .45 Colt. This cartridge was and is used extensively, especially in the West. In the black-powder cartridge, with 40 grains of powder, it develops the tremendous energy of 450 foot-pounds, and is by far the most powerful small-arm load. In the smokeless loads it is not so powerful, having an energy of only 336 foot-pounds, or 39 foot-pounds less than the .44-40. It has a speed of 770 feet per second, and a bullet of 255 grains' weight. It has a more pointed bullet than that of the .44-40. The New Service and Single Action are made to take this load. The New Service is made also in a target revolver for this cartridge. This latter gun sells at the present time for \$50. Recoil is excessive in the black-powder load, and the smokeless load is not as powerful as the .44-40. Of the large revolver loads I should prefer the .44-40 for outdoor use and protection, because of its long range and killing power. The .38-40 would be very little inferior in either respect, if at all. For strictly target work, the .44 Special Target Revolver leads all the other large loads.

Below is a list of guns which will cover all conditions of use as well as possible. It is in my opinion the ideal equipment of the real dyed-in-the-wool gun crank, who follows his hobby seriously.

1. Colt or Smith & Wesson .22 Single-Shot Target Pistol for extremely accurate small-bore target-shooting.

2. Colt or Reising .22 Automatic Pistol for popping around. Substitute Colt or Smith & Wesson .22 Revolver if your tastes run to these arms.

3. Officers' Model 7½-inch Target Revol-

ver, .38 Special, or Smith & Wesson 6-inch target revolver for same load, for fine revolver target-shooting indoors and accurate long-range shooting outdoors.

4. Officers' Model 4½-inch revolver for official pocket revolver target-shooting. This gun comes within the limit of size and weight as a pocket gun, and is extremely accurate as well.

5. Colt .38 Automatic Pocket Model for carrying in the pocket for defense against bandits. It is the most deadly pocket gun made.

6. Remington Double Derringer for carrying in the vest pocket or watch pocket, when a larger gun would be too bulky to carry, and when need of a gun is not ordinarily to be expected. The most deadly very small gun made.

7. Colt Single Action 4¾-inch .44-40, loaded with black-powder loads for home defense. The black powder will not deteriorate with age; will not readily fail to function from oil soaking into the case; makes more noise and flash in the dark than smokeless powder. Its softer lead mushrooms more readily and has more shocking power.

This list is my honest opinion of the best guns for each use. Others perhaps will differ with me. Some of the above guns can be used to cover two or three of the uses given. As to which is the best, revolvers or automatics, I should say that it depends upon the use for which they are intended. In the main the revolvers are more foolproof, safe, and reliable than the automatics. With the exception of the .22 automatic the revolvers are superior, or can be adjusted so as to be superior, to the automatics in smoothness of trigger pull. The automatics can not be lightened in trigger pull without running a risk of making the pull so light that the slide going forward will jar off the next cartridge, and all the cartridges will go off with only one pull of the trigger. This is liable to happen when an inexperienced person tinkers with the trigger pull of an automatic. A defective cartridge can tie up an automatic, whereas in a revolver the cylinder is simply revolved to the next cartridge. A revolver can be fired more instinctively, without having to worry about the safety catches and other mechanical devices that may be forgotten in excitement. More accidents happen with automatics because people are not familiar with their operation. However, in the hands of an experienced shooter, one who takes good care of his guns, who cleans and oils them regularly, and who changes cartridges in them occasionally, the automatic pistols are safe, reliable weapons. They can be reloaded much faster than revolvers by using extra magazines. They are flatter and more compact than revolvers, and therefore easier to carry. For people who are unfamiliar with firearms the revolver would be recommended as being safer and more reliable.



# Elephant Rifles

By W. M. Garlington

**M**OST riflemen in this country exhibit considerable interest in rifles intended for use on African game. Especially do they evidence interest in the great double-barrelled rifles intended for use on elephant, rhino, buffalo and, by some, lion.

It has been my good fortune, and pleasure, during the past five years, to inspect and sight in the various rifles comprising the batteries of several expeditions bound for the Dark Continent. Later, from their owners, I have learned just how those rifles performed on the various kinds of African game, from elephant down to dik-dik.

Included in the batteries in question were rifles of various makes and calibers. Most of them were of the highest grade of workmanship—rifles of the type calculated to please and arouse the enthusiasm of the most exacting and discriminating lover of fine arms. Prominent among them were Springfields and Magnum Mausers, by Griffin & Howe and other makers of note, and elephant rifles by Westley Richards, Holland & Holland and Jeffery, in calibers .476, .450 and .475, there being several Jefferys in the latter caliber.

Of all the rifles I have handled and tested none have intrigued me to the extent the double elephant rifles have. Such rifles are comparatively rare in this country and few people have ever seen one, much less fired one. They are rare for two good and sufficient reasons—the type and caliber are not popular; and, primarily, the practically prohibitive cost.

While double rifles are popular in England, continental Europe and Asia, American riflemen with good reason prefer the repeating rifle and its modern cartridges, which are procurable at prices within the range of most any man's pocketbook. There is no necessity for rifles in the heavy calibers, while the double-barrel in the smaller calibers is not only prohibitive in cost but is inferior to our modern bolt-action sporters in everything but workmanship.

The type of construction of the double rifle is such that pressures must be kept down to insure safety. This generally means the use of Cordite as a propellant, which permits the obtaining of so-called high velocities of from 1,900 to 2,200 feet in the larger calibers with safe



Jeffery .475 In Free Recoil

pressures. In the smaller calibers, such as the Jeffery .333, velocities as high as 2,500 feet are claimed.

There is no game on the North American Continent requiring rifles in calibers as heavy as .450, .465, .475, .577, or .600. This group, with certain variations, is intended for use on heavy, dangerous game of great bulk and vitality, and, in some cases, with hides as thick as 2½ inches in places.

It is probable that a few more shooters in this country would own double rifles than is the case, if only for pride of possession, if it were not for the cost. In this respect they are truly a rich man's gun.

The lowest-priced second-quality ejector by any first-class maker is about £85 sterling, f. o. b. the maker's show counter. Add

to this duty in excess of 50 per cent of the dutiable value, freight, insurance, etc., and you simply ruin a \$700 bill.

One rifle I fired, a Holland .450, cost £200 sterling, duty paid in Kenya Colony at the time it was obtained by its present owner from Leslie Simson, the famous African hunter, for £85 sterling. What it would have cost in this country I do not know, but it would have been a plenty. This is the greatest rifle bargain I ever heard of. It had been fired 14 times, and to all appearance had just been taken from the maker's show case. It is a wonderful example of the English gunmaker's skill, and is the highest type of arm it is possible to turn out minus gold inlay, which, to my mind, is worthless embellishment.

While practically all English makers turn out first, second and third quality rifles, I have never seen one lower than the second. However, the second-quality ejector rifles that I have examined are just about all one could wish for in the matter of material and workmanship. This is especially true of the Jeffery.

The high-grade English double rifle is a thing of beauty. The materials are of the finest quality procurable, while the fitting of the various parts, the joining of wood and metal, and the general workmanship leave little to be desired. The engraving and general finish is very beautiful and must be seen to be appreciated. The finished arm constitutes a work of art.

Built along the same lines as the double shotgun, but with shorter barrels and much heavier frame, the double rifle balances rather well. Those I have fired handled rather fast for their weight.

On account of the tremendous charges of Cordite used in the cartridges intended for use on animals of great bulk and vitality, the weight of the double rifle runs from 11 to 16 pounds. Lighter rifles would perhaps stand the strain of these heavy charges, but the man behind could not. Smaller caliber rifles weigh as little as 9½ pounds.

Most of my firing with elephant rifles has been confined to firing about five shots at a time, spaced several minutes apart. Firing in this manner produced no discomfort. However, I made a test one afternoon by firing a Jeffery .475 ten times

JEFFERY DOUBLE BARREL ELEPHANT RIFLE - .475 CALIBER									
LEFT BARREL					RIGHT BARREL				
RIFLE	28621	DESIGNATE AIMING POINT BY X TARGET D NO. 37	RIFLE	28621	DESIGNATE AIMING POINT BY X TARGET D NO. 37	RIFLE	28621	DESIGNATE AIMING POINT BY X TARGET D NO. 37	RIFLE
SIGHT	OPEN		SIGHT	OPEN		SIGHT	OPEN		SIGHT
AMMUNITION	KYNOC		AMMUNITION	KYNOC		AMMUNITION	KYNOC		AMMUNITION
POSITION	OFFHAND		POSITION	OFFHAND		POSITION	OFFHAND		POSITION
WEATHER			WEATHER			WEATHER			WEATHER
LIGHT			LIGHT			LIGHT			LIGHT
WIND	OCLOCK		WIND	OCLOCK		WIND	OCLOCK		WIND
MILES	100		MILES	200		MILES	100		MILES
ELEVATION			ELEVATION			ELEVATION			ELEVATION
WINDAGE	SS	43	SS	23	OS	WINDAGE	SS	43	SS
SCORE			SCORE			SCORE			SCORE
REMARKS									REMARKS
X = AIMING POINT.									
70 GRAINS CORDITE - 500 GRAIN BULLET.									
JULY 2, 1926.									



in about twelve minutes. When I had finished I had had all of elephant rifles I wanted for some time to come. While severe, it was not the recoil that caused me discomfort—it was the terrific muzzle blast and concussion.

The rifle used on this occasion had 24-inch barrels and weighed 11½ pounds. Its cartridge was loaded with 70 grains of Cordite behind a 500-grain bullet—quite a formidable load, eh? In hot climates this combination is said to give 2,100 feet velocity at the muzzle, and 5,000 pounds muzzle energy. The loaded cartridge measures 4 11/32 inches from head of case to nose of bullet. Whether these ballistics are taken from 24-inch or 30-inch barrels I can not say, though I am prone to believe they come from the use of 30-inchers.

Each shot produced a bright flash of flame about a foot long, plainly visible in the sunlight of a midday in July. The muzzle blast and concussion were terrific, due to the short barrels. The last few shots jarred my head badly; the last two seemed to raise the roof.

The recoil of such rifles is not the sharp jump of the Springfield or Magnum Mausers, but is more on the order of a giant push in which the body, from the waist up, and the shoulder are shoved backward. The muzzle rises considerably at the discharge, but I have never noted that the butt had any tendency to leave the shoulder, unless the rifle was improperly held.

I have found that while such rifles should be held firmly, they should not be held too much so, and that the body should not be rigid or braced against the recoil at the time of firing. Dismiss the question of recoil from the mind, hold the rifle firmly, and keep the body relaxed; then the recoil will not bother, though the concussion will if many shots are fired in succession.

Men of experience have told me that they were unconscious of either recoil or concussion when firing at either buffalo, rhino, or elephant. The excitement caused by the presence of such dangerous brutes, and the concentration of the faculties on the business at hand entirely diverts the attention from these two disturbing elements. In target-shooting with one of the big rifles there is nothing to divert the attention of the firer from the action of the rifle itself; consequently recoil and concussion are quite apparent.

While these rifles are primarily intended for close work on dangerous game, and are short-range weapons at best, they are capable of fairly good work at 200 yards in the hands of one knowing how to hold a rifle.



From the Elephant's Viewpoint

According to catalogues issued by several makers, best quality rifles will "consistently shoot into a 3-inch square at 100 yards." That is very fine accuracy for such weapons, it must be admitted, and presumably is the result of firing with the muzzle and elbow rest. Just how it is possible to align the coarse open sights so consistently for a series of shots puzzles me.

The rifles of my acquaintance are equipped with a large white bead in front, sitting atop a ramp, and a very coarse V rear sight, a combination well suited to quick work on big beasts at close range, but, to my way of thinking, at least, the worst possible combination for close grouping, even at so short a range as 100 yards.

After considerable wondering as to what kind of accuracy might reasonably be ex-

pected from the big rifles at 100 and 200 yards, when fired as they would be in the field, I borrowed a Jeffery .475 from a friend, who also contributed the necessary cartridges. Thus equipped, I fired two 10-shot strings, each composed of 5 shots at 100 yards, and 5 shots at 200 yards.

On account of the coarseness of the sights the regulation D target was used for the test. The firing was done in bright sunshine with sights not blackened. The position used was the same as would be used in the hunting field—strictly offhand, as shown in one of the photographs. The results of the firing are shown by the illustrations.

While the results obtained are not comparable to those obtained from sporting rifles of lesser caliber, they show that these big rifles are plenty accurate for the purpose intended, and that at 200 yards—a long range for such arms—they may be counted upon to perform rather well. The glare of sunlight on the coarse sights interfered with aiming to a certain extent, while after half a dozen shots the heavy weapon became more difficult to hold steady in the hunting position, and concussion began to make itself felt, even though firing slowly.

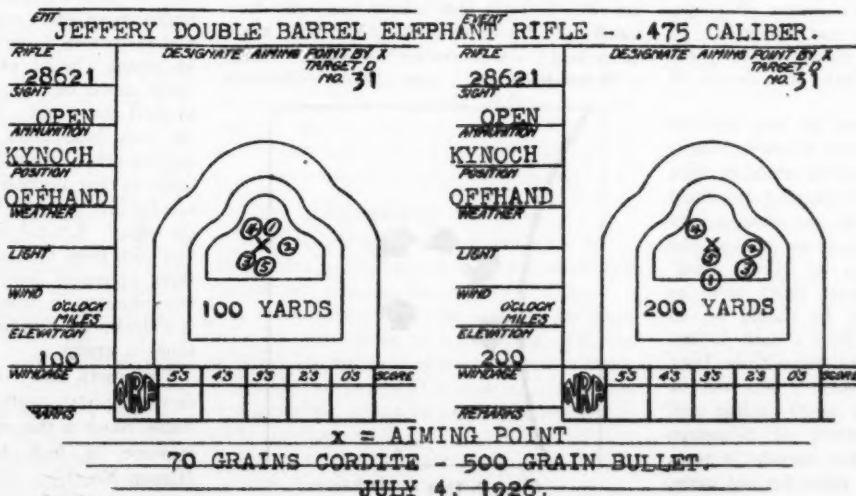
The ammunition used was purchased in England, and then for nearly a year it was lugged through the Congo, British East Africa and Sumatra, after which it was stored in Chicago for about eight months before being used. Apparently it had not suffered from the various temperatures to which it had been subjected.

While we shudder at the mention of Cordite with its high nitroglycerine content, it really is admirably suited to the purpose in double rifles of large caliber. Its use permits of obtaining the maximum velocities required, with pressures kept within the safety limits of the double barrel.

Used in the Springfield, or similar rifles, as often as most of us fire on the range, Cordite would ruin the barrel almost overnight. However, used in an elephant rifle, which is rarely fired over fifty times during the course of a hunt of six months' duration, it does not produce such direful results.

I have carefully examined the bores of several rifles which had seen nearly a year's service in Africa and India. I was greatly surprised at their condition, as the rifles had been fired considerably. The bores were bright and smooth—practically perfect—close inspection revealing only a tiny pit or two just forward of the chamber. The gun-bearers had taken excellent care of these

(Continued on Page 23)





## "Scraps"

By Ed. McGoldrick

**M**ORE than likely the real blame for this "burst," or "dud," if you like, should be placed upon the shoulders of that gent down in Iowa who wrote the article in *THE AMERICAN RIFLEMAN* some time ago telling us that a substitute had been found for Schuetzen powder, said substitute being necessary owing to the fact that du Pont had relegated Schuetzen to the "also were," than from our lack of appreciation of this fine powder.

Having used a considerable amount of Schuetzen with excellent results and not having any desire to accept a substitute, I got busy and succeeded in gathering up from the local sporting-goods stores and powder-magazines 31 cans of our late lamented powder at an average cost of (don't cry, Iowa) 55 cents a can. I told the gentlemen it was an obsolete powder and proved it by du Pont's folder. They were glad to get rid of it. A week later they were trying to buy it back.

But to get at the story. About eight years ago I picked up a new .25-25 Stevens Model 44½, with 26-inch barrel and 100 cartridges for \$10. One of our local merchants had bought heavily, but not too wisely, and wanted to get rid of a few lemons at about cost. A pair of double triggers next came my way, and I was off. These factory black-powder loads would stay in the 3-ring of the A target at 200 yards and that was about all. My next move was to work up a load that would hit something.

I tried the 86-grain Ideal bullet of several tempers and a number of powders and finally hit on a load of 6 grains of No. 80 and 86-grain bullet cast 16 to 1, Remington No. 6½ primer, bullet seated in the shell, 2 bands. With good bullets and Winchester 5A scope, shooting from rest, I never remember of getting outside a 2-inch circle at 100 yards if I did my part, and I have shot dozens of groups at this range.

It was sure some gun on our ground-squirrels, and with it I have killed thousands of the little pests. But sad to relate, in spite of the best of care and cleaning this load went to work on the barrel and about a year ago the pitting had become so bad at the breech that I decided to let "Uncle Levi" have the gun. Uncle Levi didn't seem as enthusiastic as I thought he should be, so back home it went and into a dark corner.

Now, here is where the party from Iowa comes in. One time while I was out at Al Hinton's looking for a .32-20 loading tool, Al brought up the subject of Schuetzen powder, and remarked that nobody in town had any. Al was almost right, but not quite.

While talking I noticed a gun-barrel lying on a table and picked it up to examine it. Gosh! it was a .25-21 28-inch No. 3 Stevens barrel absolutely perfect inside, but had been recolored by some private party a rich brown. Keep this color in mind until later.

Al deals in Schuetzen rifles—buying and selling all over the country—and is a keen old trader. But even Al is not infallible. Asking where he picked up the barrel brought the information that some party back East had sold him a gun with two barrels, both .25-21, and as the other looked newer and was a nice blue he had put the newer one on the gun. I told him that I might be able to use the brown one and asked what he would take for it. We argued back and forth for some time and finally I asked if he would take 10 cans of Schuetzen powder in trade for it. I left with said brown barrel.

After getting home I found that the thread on my new barrel was too small for my 44½ action, as this barrel had come off one of the old 44 models. Not so good. What to do? And then I happened to remember our old stand-by and friend in need, J. E. Wilburn, of Spokane, who is by trade a watchmaker and by preference in his spare time a maker of the finest pistol and revolver barrels I have ever had the pleasure of shooting. Jake works only when he is in the mood, and sometimes it means a long wait for your barrel. But we happen to be pretty close friends, and I am fortunate in being able to get more action than others, as we are pretty close neighbors as well as friends. So one evening I took the brown barrel and old gun over and told Jake my troubles. As soon as he saw the barrel he asked where I got it. I told him where, and for how much; and his remark was, "You sure are a lucky bird." "How come?" I asked. "That's a Schoyen barrel," says Jake. "Schoyen

barrel!" says I, "I have been trying to pick up a Schoyen barrel for years!" "You got it," was Jake's remark. "I'm telling you there is no question about it. Look at that color. Schoyen is the only man that ever put that color on a gun-barrel; and look at the cut of the rifling. There was only one Abe Lincoln and only one George Schoyen; and George cut that barrel."

It seems that in the old days a number of Stevens guns were put out with two barrels on a special order, one a center fire of .25 caliber or larger for outdoor shooting, and the other a .22 caliber for indoors. This barrel of mine had been a .22 caliber and evidently become unfit for use through some cause or other, so had been sent to Schoyen for reborring.

So we went to work. First Jake turned down the receiver end of the new barrel to a predetermined size. Then he cut off the threaded part of the old barrel and bored it out to take the new one, preserving the old thread. This done, he sweated the bushing on with a special solder he uses and screwed the new barrel into the receiver; and there she was!

Next came a pair of scope bases, and old "Scraps" was ready to shoot. I borrowed Jake's .25-caliber 108-grain Schoyen mould and ran off a bunch of bullets.

Having ruined one barrel with smokeless powder and smokeless primers I decided to take no chances on this one, and got 500 No. 1 Western primers for black powder only, a can of FFFG black powder and a can of Schuetzen, and set out for the rifle-range. Putting up a target at 100 yards and setting up the old Bardou spotting-scope, I then rigged up an elbow-and-muzzle rest. I primed a shell, put in 3 grains of black powder and 18 grains (bulk) of Schuetzen and put a bullet down on top of this, seating 3 bands in shell and 4 out. This bullet has 7 bands, the two base-bands being groove diameter and the other 5 land diameter. I lined up the scope as near as possible, loaded the gun, took careful aim and cut loose—9 o'clock just on the paper. Loaded and fired again, and one-half inch from first hole and toward 3 o'clock there appeared another hole. A change of five minutes in windage gave me an 8 at 9 o'clock; so I decided to call it good and shoot a group.

Five shots, and I looked through the Bardou and pretty nearly fell dead. All 5 shots would touch a thin dime, and the group will measure ¾ inch from center to center. (Group No. 1.)



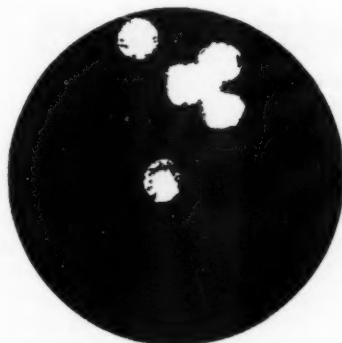
Group 1, Shot at 100 Yards



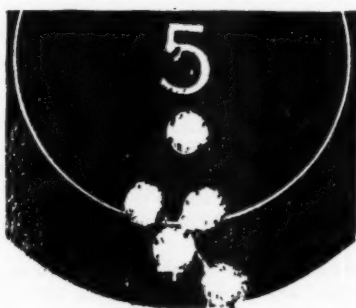
Talk about luck! Here on the first trial I picked the bullet temper, powder load and primer. Here is where that never-satisfied feeling asserted itself; so to prove that the first group was not an accident I increased the powder charge 3 grains bulk, made a windage correction for center and shot another. This group is center and about 1 inch higher than No. 1 and measures  $\frac{7}{8}$  inch. I called one low hold, and my wife, who was spotting, said it was the pin-wheel showing. This satisfied me as to what I had, and subsequent results indicated that with a load of 3 grains black and 18 grains bulk Schuetzen powder and my conglomerated bullet I have a shooting iron that will make the best of them go some to beat it at 100 yards. I then tried the rifle at 200 yards on the German ring target, and after getting sighted in fired 5 shots from rest. Result: 25-23-24-24-25. Right here I quit before they started going through the same hole and got lost for a miss.

Two weeks later, when I had the outfit along, one of the gang wanted me to try du Pont shotgun powder and see how it would compare with Schuetzen for accuracy. The same sight setting, the same primer, 3 grains black and 18 grains (bulk) of shotgun gave target No. 3, 15/16-inch center to center. I believe that top shot to be my fault, for as I shot one of my holds looked a hair high when I let it go.

So when the Schuetzen powder is all gone I still have a good old stand-by to fall back on. Eighteen grains of King's Semismokeless and this bullet will give  $1\frac{1}{2}$ - to  $1\frac{3}{4}$ -inch groups



Group No. 2



Target No. 3, 100 Yards

at 100 yards. And I am using this load for squirrels and chucks with a 30 to 1 bullet. It leaves them dead standing up.

Now, you would think I should be satisfied; but no, not yet. That darn boy's size

stock was worse than useless for offhand shooting with the telescope. Getting hold of a block of good walnut I tackled my first job of gun-stocking. After much grief, swearing and hard work I got what I wanted—a stock that fits me exactly.

Paul Roberts, of the Western Cartridge Co., contributed an International Springfield butt-plate and I dug up some old parts of a palm rest, including a cork ball from my heavy Springfield; and getting this bunch of "Scraps" all fastened to the gun I tried her out offhand. Did she work? I have 21 guns, and old "Scraps" heads the list. With proper loads the barrel will last a lifetime; and the expense of ammunition is almost nothing, primers at \$3.50 a 1,000 being the heavy item. Jake made me promise that if I ever sold it he was to have the first right to purchase. Being under obligations to Jake I gave him my promise.

In conclusion, there are a number of these old 44½ Stevens actions scattered around the country, some of them with pretty good barrels and a few with Schoyen and Pope barrels, and these, with a little tinkering, can be made into real shooting outfits which will give a lot of pleasure at a small outlay. The cost of reloaded ammunition is so little as to be almost not worth consideration. It is my opinion that this No. 44½ action is as safe and as strong a single-shot action as any except the heavy single-shot Winchester or the Sharps. Also I found that I could make a gunstock if I had to; and I am glad that Uncle Levi didn't think that my old pitted gun was worth as much as I thought it was.

## Shotgun Powder and Lead Bullets

(Continued from Page 6)

we must see to it that they are told how to get the most shooting for their money; and it is only by using these cheap homemade loads that they can do this. The shotgun-powder lead-bullet load is the cheapest reduced load in a high-power rifle that I know of. There is only one other way of getting as cheap shooting, and that is by using one of the good old black-powder rifles. Then you really will get some fun for your money—but that is a whole story in itself!

Some may say, "Why all this bother and fuss about making bullets and loading cartridges, when you can get a .22 and have all the shooting you wish for about 80 cents a hundred?" My answer to this is that you will never get wholly familiar with your hunting rifle or any other rifle by firing two or three boxes of shells in a year. By all means buy as many full-charge cartridges as you can afford; the cartridge companies are worthy of all the support they can get. But unless you are a wealthy man and can afford to buy full-charge cartridges in large quantities you will never get enough practice to become a fine shot without the extensive use of light loads. And by light loads I do not mean merely little squib loads such as some I have mentioned, but also the so-called

mid-range loads, using a homemade gas-check bullet and giving velocities up to 1,600 and 1,700 feet per second. With these last, powders other than shotgun will have to be used; but even at that your cartridges will be vastly cheaper than factory ones. To the man who is handy with his fingers and is keen on rifle-shooting, the reloading game is a most fascinating one; and although at first glance a full set of reloading tools may appear to be expensive, their cost is saved in a very short time. To anyone who so far has never "rolled his own," but feels that he would at least like to know about the possibilities of the game, let me advise the buying of a copy of Mattern's "Handloading Ammunition." This is a book which covers the subject most completely, and to the confirmed gun bug is one of the most fascinating.

## Elephant Rifles

(Continued from Page 21)

rifles, always cleaning with boiling water and thoroughly greasing the bore after drying.

I thoroughly cleaned the bores of the most used of these rifles with ammonia swabbing solution, so was in position to see their exact condition when perfectly cleaned. The first few ammonia-soaked patches came out plentifully smeared with green, showing that the bullet jacket left a copper wash as it passed through the bore.

No doubt a charge of cool burning pyro powder would be better for use in these rifles, and better still if it were fired by a noncorrosive priming, but it remains a fact that Cordite in these rifles, with proper cleaning, is not so destructive an agent as it is generally thought to be.

I would not go on an African hunting trip without a life-insurance policy in the shape of one of these big double rifles. From what I have seen of them, my choice would be a Jeffery .475 in the box frame pattern. This type of frame, to my mind, is stronger than the side lock. There is less wood cut away where the stock joins the action, and there are less parts, pins, and screws used in its construction. However, a broken mainspring is more easily replaced in the side-lock type.

The rifle would be equipped with ejectors, double triggers and the heaviest, thickest recoil pad available. The sights would be some made for me by one of our good gunmakers, and would be an improvement on those furnished with the rifle. These can be refined a bit and still be suited to quick work. The weight would be about 11½ pounds.

Could I afford it, I would add a big double rifle to my present battery. Then, when I became bored by my Springfields and Winchester, I would take it out to the range and shake things up a bit.



## Bird-Hunting Reminiscences

By P. M. Chiswell

BACK in 1913 the writer was living in one of the outlying suburbs of the city of Winnipeg, and had for a near neighbor a Finn who had not long been out from his native land. As our acquaintance developed and he discovered that I was something of a sportsman, he professed similar inclinations, and at odd times volunteered reminiscences of his prowess in the homeland. As the season for hunting prairie-chickens came around this Finn learned that it was my intention to spend a few days in hunting them, and he eagerly solicited the privilege of accompanying my brother and myself on our proposed expedition. Being willing to oblige, we acceded to his request.

A few days later he acquired an old double-barrel shotgun of doubtful vintage, which he produced for our inspection and admiration at the first opportunity. We were not very lavish with our praise as we viewed the contraption, but in order not to disappoint him we expressed the opinion that it might be all right to kill chickens with. We hoped so, anyway. Personally I was less sanguine in these hopes a few days before the season opened, when Alf, which was the name the Finn went by, called to me as I was passing his place to come and see the "fine shells" he had bought for the hunt. We had told him previously what size of shot to specify when he made his purchase, but had left the make and brand of cartridge to his discretion.

Alf joyfully exhibited his "shells." "I got a fine bargain," he announced; "cheap, and good, too—look!" I looked, all right, and found that they were the cheapest brand of shotgun cartridges on the market, retailing at that time for 45 cents per box of 25, loaded with black powder, and no doubt soft shot instead of the chilled variety.

"But, Alf," I remonstrated, "why didn't you get some good smokeless shell? Nobody uses this kind now." "Never mind," he replied, "that's all right. They are good—the man told me. You will see I get lots of chicken with them."

However, to cut the story short, the fatal first day of the hunt arrived, and after reaching the hunting-ground my brother, Alf and I separated to make our first drive across a stretch of semi-open country interspersed with small bluffs of poplar and willow, and parallel to the edge of a grain field, which we knew would be a good stamping ground for chicken. We gave Alf the post of honor in the middle, since he was new to the game and we wanted to give him every opportunity to make a good showing. After spacing out to about a hundred yards interval we started on our drive, and had not gone far when a small covey was flushed directly in front of Alf. I could not see him at the time for the scrub, but heard the report of his gun. He fired only once, but nothing seemed to happen to any of the chickens; and as I thought he had plenty of time for the second barrel I wondered at

the time why he had not tried again. My brother then put up a covey out of which he got one bird, and the others angled across in front of Alf. "Bang" went his gun, and after an interval when the chickens were quite out of range "bang" again. Several times during the drive when it seemed that Alf had time for a double he fired only a single shot; and when we reached the end of the stretch and closed in to talk over our luck there was Alf, with no chicken, but looking glum and muttering to himself. My brother and I had gotten several apiece, and we wondered why Alf had missed so many apparently good shots. "Well, Alf," I said, "what's the trouble—you don't seem to be having any luck. Why didn't you shoot twice sometimes when you had the chance?" For a moment Alf wrestled with his feelings, every lineament of his countenance portraying deep disgust. "It's these — shells!" he finally burst out. "The — — — things begin to smoke before you shoot!"

Ever after that, as long as Alf lived in that neighborhood, he never heard the last of his black-powder shells that were "cheap, and good, too."

A friend of mine who had a farm in Saskatchewan tells the following story about two Norwegians who lived near him, and which he solemnly asserts to be true:

The Norwegians were two young fellows but newly in the country who had homesteaded near him, and though one of them possessed a single-barrel shotgun, neither of them knew anything about shooting or the habits of game birds.

My friend had some decoys he formerly used when duck-shooting, and when the Norwegians had seen a batch of newly killed ducks at my friend's place one day that they happened to call, they suddenly became ambitious to do likewise; and they asked for the loan of the decoys for the next day in order that they might get some ducks, too. The decoys were duly handed over to them, and late the next afternoon my friend thought he would ride over to where they lived to see how they were getting along, as he suspected they were pretty green.

There was a large slough or small lake quite close to their homestead, which was a good place for ducks, and my friend spied the Norwegians there, afar off. The lake had a thick belt of reeds almost entirely around it, but there was one strip where there was a kind of a beach of sand, which was quite bare of vegetation. It was on this beach that my friend espied the Norwegians, and on riding closer an astonishing sight met his gaze. One of the Norwegians had denuded himself of his trousers, and was wading slowly to and fro a few yards from the water's edge, towing the decoys behind him with a string, while the other was standing on the beach in full view, his gun at the "ready," patiently awaiting the coming of the ducks.

### WINCHESTER NONCORROSIVE CENTER-FIRE AMMUNITION NOW AVAILABLE

By TOWNSEND WHELEN

IN THE November last number of THE AMERICAN RIFLEMAN was published an article describing the great advantages of the new noncorrosive primers. We also stated that center-fire ammunition factory-loaded with these primers would be available shortly after the first of this year. We are now glad to be able to announce that the Winchester Repeating Arms Co. has just brought out twenty-five of the most popular sizes of rifle and pistol cartridges loaded with their new center-fire noncorrosive primer which has been given the trade name of "Staynless." The sizes now ready are as follows:

		Weight, bullet, grs.	Muzzle velocity, F. S.
.25/20	Win. Ld. Staynless.....	86 *	1,425
.25/20	Win. S. P. Staynless.....	86 †	1,425
.25/20	Win. Superspeed Staynless.....	60 †	2,200
.32	Win. Ld. Staynless.....	115 *	1,225
.32	Win. S. P. Staynless.....	115 †	1,225
.32	Win. Superspeed Staynless.....	80 †	2,000
.32	S. & W. Staynless.....	85 *	700
.32	S. & W. Long Staynless.....	98 *	700
.32	Colt N. P. Staynless.....	98 *	700
.32	Short Colt Staynless.....	130 *	700
.38	Long Colt Staynless.....	150 *	765
.38	Colt N. P. Staynless.....	150 *	675
.38	Colt Special Staynless.....	158 *	850
.38	S. & W. Staynless.....	145 *	700
.38	S. & W. Spec. Staynless.....	158 *	850
.45	Colt Staynless.....	255 *	765
.45	Auto. Colt F. P. Staynless.....	230 †	810
.25/35	Win. S. P. Staynless.....	117 †	2,175
.30	Win. S. P. Staynless.....	170 †	2,200
.30	Win. Superspeed Staynless.....	110 †	2,550
.303	Brit. S. P. Staynless.....	215 ‡	2,000
.32	Win. Spec. S. P. Staynless.....	170 †	2,250
.32/40	S. P. Staynless.....	165 †	1,430
.405	Win. S. P. Staynless.....	300 †	2,200
.405	Win. F. P. Staynless.....	300 †	2,200

Type of jacket—\* Lead, † Gilding, ‡ Cupro-nickel.

It is understood that other of the more popular and modern cartridges will be similarly produced loaded with the Staynless primer in the very near future.

Before standardizing this new primer, Winchester made numerous and extensive tests to prove its noncorrosive feature. These tests were made in an atmosphere saturated with either salt or fresh water. From 25 to 50 shots were fired in a barrel, and it was then placed, uncleaned, in this saturated atmosphere. After 24 hours barrels were inspected, wiped out and examined. At intervals barrels were wiped out dry and then left in this atmosphere, which is a more severe test than that of leaving them uncleaned. At other intervals they were left in for two weeks, and in no case has there been any evidence of rusting or corrosion.

We are not prepared to say that any rifle should be left entirely uncleaned just because a noncorrosive primed ammunition has been used. We can imagine that under certain conditions a large accumulation of fouling may cause friction, wear and perhaps leading or metal fouling. But we do feel that if ammunition with these modern noncorrosive primers be used exclusively, the barrel first having been freed from all potassium chloride, no rust will occur which can be traced to the fouling of the cartridge. It would be perfectly safe, for example, to set a fired rifle aside until it could be conveniently cleaned, whether for overnight or for a month.

# National Board Holds Interesting Meeting

THE annual meeting of the National Board for the Promotion of Rifle Practice was held at the office of the Assistant Secretary of War (Colonel MacNider) on December 15, 1927.

The following recommendations and resolutions were approved by the Board and submitted to the Secretary of War for his approval. They are not effective until so approved:

That Training Regulations 150-5 apply to the National Matches as well as Training Regulations 150-10 and 150-20;

That all teams in National Team Matches be required to have new shooting members as follows:

	Per cent
Service Team .....	60
Class A .....	50
Class B .....	40
Class C .....	30
Unclassified .....	20

(Above requirements to apply to R. O. T. C. and G. M. T. C. Teams as well as others.)

That the eligibility of team members be certified to by State Adjutants General instead of team captains;

That all teams in National Team Matches be selected by competition; That not less than 80 per cent of the membership of all teams except Service and National Guard attend Small-Arms Firing School for full school course;

That teams of Service and National Guard must attend Small-Arms Firing School for at least four days;

That the use of a hook or roll on sleeve of shooting shirt or coat to keep the gun sling in place be prohibited;

That the use of pads so designed as to aid materially in retaining the rifle butt against the shoulder, the use of pads of a size or thickness to form artificial support and the use of gloves which form an artificial support, be prohibited;

That the positions to be used in the National Matches be as follows:

- (1) Standing,
- (2) Kneeling,
- (3) Sitting,
- (4) Prone.

## Definitions:

(1) Standing.—Erect on both feet, no other portion of body receiving artificial support. The gun sling may not be used and shall be adjusted to what is known as the "parade" position. The forward hand shall be extended so that the arm will be entirely free from touching or resting against the body.

(2) Kneeling.—Weight of body supported on right knee and foot and left foot, or left knee and foot and right foot; no other part of body to touch the ground. Sitting on the side of foot instead of heel permitted. The rifle will be supported by both hands and one shoulder only. The point of the elbow supporting the piece will be approximately on or just inside the point of the knee. The elbow of the hand engaged in operating the trigger must be free from all support.

(3) Sitting.—Weight of body supported on buttocks and feet; no other portion of body to touch the ground. Rifle supported by both hands and one shoulder only. The left hand (or in the case of a left-handed shooter, the right hand) must not rest on leg or knee.

(4) Prone.—Body extended on the ground, head toward target. No portion of the arms below the elbow shall rest on the ground or any artificial support. The use of elbow holes is prohibited;

That the method of assuming any position be optional with the firer;

That appeals from the decision of the Executive Officer, National Matches, be acted upon by an Appeals Board consisting of those members of the National Board for the Promotion of Rifle Practice who may be present at the National Matches. Decisions of Appeals Board to be final;

That the selection of dates for next National Match and recommendations for Executive Officer and Assistant Executive Officer be left for future action of Executive Committee, National Board for the Promotion of Rifle Practice;

That the following be appointed as Executive Committee, National Board:  
Maj. Gen. Robert H. Allen, Chief of Infantry, U. S. A.,

Maj. Gen. Creed C. Hammond, Chief of the Militia Bureau,  
Col. Douglas C. McDougal, U. S. Marine Corps;

That the estimates of the War Department for appropriations for the fiscal year 1930 provide for issues, now authorized by A. R. 850-100, to 1,800 rifle clubs and 45 special schools.

The following resolutions were adopted by the Board and forwarded to the Secretary of War for his approval:

That it is the sense of this Board that the national competitions or National Matches be held regularly every year, without interruption;

That firing members of American International Rifle and Pistol Teams, except .22-caliber teams, be granted one leg on Distinguished Rifleman or Distinguished Pistol Shot Badge for each year in which they participate in International Matches as a firing member of United States International Teams, to be retroactive without limitations;

That rifle clubs be authorized to draw present allowance of caliber-.22 short cartridges or its value in caliber-.22 long rifle cartridges;

That the .22-caliber rifles issued to civilian clubs be replaced by rifles of caliber-.22 long rifle;

That A. R. 850-100 be modified and amended as follows:

To provide for issue to State Rifle Associations of 6,000 rounds of ammunition annually for purpose of holding State Rifle and Pistol Matches;

To provide for issue to R. O. T. C. units of cartridges caliber-.22 long rifle for competitions in addition to regular issues;

To provide for issues to civilian clubs of the present authorized annual issues of arms, ammunition and target material as listed in A. R. 850-100 or the equivalent value in any of the stores in the list.

All recommendations and resolutions of the Board are subject to the approval of the Secretary of War and do not become effective until so approved. The final action taken by the Secretary of War on these recommendations and resolutions will be announced later.





# The AMERICAN RIFLEMAN



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## Time for a Show-Down

Section 113, National Defense Act, provides—

"That for the purpose of furnishing a national trophy and medals and other prizes to be provided and contested for annually, under such regulations as may be prescribed by the Secretary of War, said contest to be open to the Army, Navy, Marine Corps, and the National Guard or Organized Militia of the several States, Territories, and the District of Columbia, members of rifle clubs, and civilians, and for the cost of trophy, prizes, and medals herein provided for, and for the promotion of rifle practice throughout the United States, including the reimbursement of necessary expense of members of the National Board for the Promotion of Rifle Practice to be expended for the purpose hereinbefore prescribed, under the direction of the Secretary of War, the sum of \$7,500 is hereby authorized to be appropriated annually: *Provided*, That no competitor shall be entitled to commutation of rations in excess of \$1.50 per day, and when meals are furnished no greater expense than that sum per man per day for the period the contest is in progress."—(Act of February 14, 1927: Sec. XII, Bul. 4, 1927, p. 7.)

Notwithstanding the above law, which clearly indicates it was the intent of Congress that the National Matches should be held annually, the War Department has refused to include the necessary items in their budget. By this act the War Department has practically nullified the action of Congress or, in other words, War Department policy has been placed above the law. The time has arrived when it should be determined whether or not the intent of Congress can thus be overridden with impunity.

In 1926 the War Department defended similar action upon the ground that the economy policy had so stripped them that they were without sufficient funds to carry on the essential activities of that department. The same excuse can not be offered at this time, as the present War Department budget carries practically thirty million dollars over the budget of last year. Notwithstanding this enormous

increase, the annual competition, or National Matches, has been given absolutely no consideration.

It is high time that the War Department be brought to a realization of the fact that it is their duty to carry out the intent of Congress, as expressed in the law.

The National Rifle Association therefore requested Congressman Speaks, of Ohio, to introduce an amendment to Section 113, which will accomplish the desired purpose. This amendment was introduced on January 5 and is known as H. R. 8550 and reads as follows:

*"That for the conduct of the annual competition, known as the National Matches, and for the purpose of furnishing a National Trophy, medals, and other prizes, to be provided and contested for, which competition shall be held annually, under such regulations as may be prescribed by the Secretary of War, said competition to be open to the Army, Navy, Marine Corps, and the National Guard, or Organized Militia, of the several States, Territories and the District of Columbia, members of rifle clubs and civilians, and for the cost of trophy, prizes, medals, and all other expenditures requisite for and incident to the conduct of the annual competition and the maintenance and operation of the Small-Arms Firing School connected therewith, and a sum necessary for the above-named purposes is hereby authorized to be appropriated annually as a part of the total sum appropriated for National Defense; and for the promotion of rifle practice throughout the United States, including the reimbursement of necessary expense of members of the National Board for the Promotion of Rifle Practice, to be expended for the purpose hereinbefore prescribed, under the direction of the Secretary of War, the sum of \$7,500 is hereby authorized to be appropriated annually: *Provided*, That no competitor shall be entitled to commutation of rations in excess of \$1.50 per day, and when meals are furnished no greater expense than that sum per man per day for the period and contest is in progress."*

The italicized words above will make it mandatory that the National Matches be held annually and will provide the necessary money for the purpose.

Since 1903, the year in which the initial appropriation was made for the National Matches, everyone in authority has recognized the fact that the wording of the law was such that it was clearly the intent of Congress to hold the National Matches each year. One can not read the law without reaching such a conclusion, and the present wording of the law has always been considered mandatory; yet the War Department, fourteen years after the initial passage of the law, takes a different view. Apparently the thing to do is to make by law the holding of the Matches mandatory.

It would appear that the War Department has not played fairly in this matter, as in 1926 they plead insufficient funds, yet in the 1929 budget now before Congress the War Department has given absolutely no consideration whatever to the National Matches and this notwithstanding an addition of \$30,000,000 over last year's budget.

If this amendment as proposed is passed by Congress, it will not be necessary for the proponents of the National Matches to make an annual fight for funds before each Congress. The battle will be won once and for all. This question should be definitely settled and the intent of Congress clearly indicated, in order that the National Matches may not be a football to be kicked about as it suits the whims and fancies of certain officers in the War Department.

All patriotic and intelligent citizens of the United States should appreciate the importance of the above amendment, and get solidly behind it. National security is our first concern. Beside it all other material matters pale into insignificance. If a nation is to continue to exist it must be prepared to defend itself should the necessity be forced upon it. One of the vital phases of preparedness is that of having a civilian population that knows how to shoot. They can not be trained to do this overnight. It is something which must be attended to now, and next year, and the year after, and continuously throughout the years ahead. It should not be necessary to bring the matter up anew each year. It should operate automatically, continuously, just as other vital functions of government operate. Something must be done to bring this about. *It is time for a show-down!*





Conducted by C. B. Lister

### THIRD OHIO STATE INDOOR TOURNAMENT TOPS FEBRUARY PROGRAM

THE third annual State matches of the Ohio Rifle League to be fired over the splendid gallery at Recreation Hall, in Columbus, February 24, 25, and 26, occupies the headline bill of the February shooting program, as well as the attention and interest of many Ohio riflemen. Practically all the established matches which in the past have been fired at the Columbus shoot will again be programmed, as also will be one or two additions. The following is a list of the matches scheduled and the prizes that will be awarded in them.

Columbus Dispatch—One Rifle, four cups, cash.

Ohio Championship—Cup, ten medals and cash.

Club Team Match—Cash.

Ontario-Ohio—Medals to winners (1928).

Women's Match—Cup and cash.

Junior Match—Cup and cash.

Ohio R. R. Championship—Plaque.

National R. R. Individual Championship—Trophy.

Pistol Team and Individual—Gold, silver and bronze medals, cash.

The officers of the Ohio League will constitute the match committee. They are, Dr. M. E. McManes, president; Capt. Clyde Miller, 1st vice president; A. E. Hart, 2nd vice president; O. D. Foster, executive officer; E. M. Farris, secretary; Lloyd Bender, treasurer; and Jess Moser, range officer. A larger attendance than in any previous year is anticipated and this committee is doing everything possible to assure smooth running. League officers have arranged for special rates at the Hotel Columbus, on East Long Street, lower rates being offered teams or groups who will take suites with connecting doors and commodious bath. The Columbus was the official hospice for the Ohio Tournament last year. Meals can be obtained at the Fort Mess Hall or at the restaurant on the grounds.

The Ohio shoot, as has been the custom in the past, and as might be expected, will have the official sanction of the N. R. A. and any records which may be made in these matches will be recognized by the N. R. A. The official N. R. A. targets at both 50 and 75 feet will be used. Pistol matches will be fired at 50 feet; and Mr. Ray Bracken will be in charge of this part of the program. All entrants will be on the same basis this year—nonmembers and members alike. Memberships, however, will be solicited on the range.

### REPORT OF N. R. A. DIRECTORS' MEETING TO APPEAR IN MARCH NUMBER

AS WE go to press the date set for the Annual N. R. A. Directors' Meeting approaches, but by the time the meeting is actually being held a considerable percentage of the February issue of THE AMERICAN RIFLEMAN will be off the press and in the mail. An account of this meeting is therefore scheduled to appear in the March number.

### SPECIAL NOTICE

IT WAS intended to permit the "free-rifle standing" position, defined under heading, "Positions," paragraph b, page 11, program of Gallery and Outdoor Postal Matches for 1928, in all gallery matches of this program, except Intercollegiate and Military events. The program, however, is not clear on this point.

Competitors, therefore, are notified that in the case of any gallery rifle matches, other than college and military events, the "free-rifle standing," which permits the use of the sling and hip rest in offhand shooting, is authorized for the standing position.

The N. R. A. regrets that this point was not made clear in the recent program. It will be clarified in future publications of the program of postal matches and shooting rules.

### AMERICAN LEGION RIFLE CLUB OF OMAHA, NEBR., LOOKS FORWARD TO ACTIVE YEAR

By R. L. EDDINGFIELD, Secretary

THE American Legion Rifle Club, with the assistance of the Omaha Rifle Club, opened fire for 1928 with a good shoot and banquet held at the Elks Club, December 17, with Skipper Lewellen presiding. The following twenty-five guests and members were present: Capt. W. M. Gaines, George Clauss, J. R. Smith, Jake Issacson, I. Capwell, Fred Organ, Fred Organ, Jr., L. R. Lewellen, Bill Haggen, G. M. Norregard, Alfred Bihler, E. H. Douglas, R. L. Eddingfield, R. P. Joseph, Adrian Mayer, M. E. Miller, N. C. Nielsen, Dr. H. J. Pool, D. R. Rippey, Jim Roncka, W. W. Scott, P. A. Strell, J. W. Stuart and O. C. Thorgersen.

Officers were elected as follows: Wm. M. Haggen, president; G. M. Norregard, vice president; L. R. Lewellen, treasurer; D. R.

Rippey, executive officer; and R. L. Eddingfield, secretary.

A motion was carried to advance the dues to \$5 per year for active members and \$2 per year for inactive members.

Capt. W. M. Gaines, of the Iowa National Guard, has again saved the day for the Legion Rifle Club by allowing the use of the Iowa range for the season of 1928.

R. D. Rippey, executive officer, appointed Jim Roncka, H. L. Meier, and Adrian Mayer as a committee to get pit details and targets up on time.

Mr. Haggen presented to the members making the different qualifications their medals won during the season of 1927.

The Omaha Rifle Club has a small-bore range in the basement of the Oliver Chilled Plow Co.'s building, at Tenth and Farnam Streets. Mr. Stuart, who is employed by the above company, has given the Legion Club an invitation to shoot with them this winter. Friday evening, December 30, was the first shoot of the season.

Business closed, and W. W. Scott put in action his movie stars, who turned out to be members of the above Rifle Clubs, showing activities on the range. He also showed 500 feet of real United States war films. Mr. Scott deserves many thanks for these pictures and also the picture diary which he is keeping for the Club. He is one of the few who can shoot you *painlessly*. Try him.

There is plenty of .22-caliber ammunition to burn up this winter. This is good practice and helps make the old .30-06 score better when the balmy breezes begin to blow.

### A CHALLENGE FROM STEUBENVILLE

THE Steubenville Rifle and Pistol Club would like to arrange matches with other civilian clubs at 50 or 75 feet, indoors. The conditions as specified by the challenging club are iron sights, four positions and the new-type official gallery target. Interested club secretaries should communicate with Mr. W. Russell O'Neill, secretary, Steubenville Rifle and Pistol Club, 1819 Oregon Avenue, Steubenville, Ohio.

### PACIFIC RIFLEMEN IN LIONS' DEN

THE officers of the Pacific Rifle Club were guests of the Stockton Lions Club at the Hotel Stockton Tuesday noon, December 13. The Roberts Island Rifle Club was in charge of the program and the college men learned many interesting things about the activities of the pioneer sportsmen's organization of San Joaquin County.

The speakers of the day included Walter W. Hubbard, father of Wayne Hubbard, E. J. Patterson, and Judge C. P. Rendon. Gerald Wallace, executive officer of the College Rifle Club, was chairman of the meeting.

Herbert Gwinn demonstrated his ability as a marksman by breaking three "turkey disks" in succession with a .22 rifle. The other Pacific men who attended the session were Ray Wilson, Cy Owen, Llewellyn Thomas, Al Briones, Frank Howland, Dick McMath, Fowler Furze and Jimmie Wallis.

### MISSOURI UNIVERSITY FRESHMEN FIRE INFANTRY GALLERY MATCH

A GREAT deal of interest in cadet companies of the University of Missouri was aroused as a result of an Infantry Cadet Indoor Match fired over the University range at Columbia on December 8 and 9. Four hundred Freshmen first fired the course, which was four positions, and then the two high cadets from each company were selected to fire a shoot-off. Winchester Muskets and .22 short ammunition was the combination used. E. R. Vavara, one of Company I's candidates, with a score of 92, won the match and was declared Freshman champion. Davis, representing Company K, and Graham, of Company L, placed second and third, respectively, with scores of 89 and 67. The Rifle Club of the University awarded the medals—gold, silver and bronze—to the three high students.

### HAMMERLESS NAIL-DRIVING

DRIVING nails or tacks with a hammer has lost its art. The modern way to do it is with the use of .22 rifles, as was demonstrated by "Tack-Driving Croom," executive officer of the Mistletoe Rifle Club, at Okmulgee, Okla. Out of ten shots at as many tacks, Croom nailed nine of them clean, and grazed the other one. Here is what he says about it:

"We stuck ten carpet tacks, just ordinary cut-steel black carpet tacks with heads about .30-inch diameter, into a white lath, which lath we placed on the target frame, with an extra tack as a 'sighter.' Each man, in any position without artificial rest, at 50 feet, iron sights only, any .22-caliber rifle, got all the sighting shots he wanted and one shot at each of the ten tacks. I happened to be lucky that night. Hence the 'driving punch.'"

### JEFFERSON SCHOOLBOY MARKSMEN WIN STOCK-EXCHANGE TROPHY

By G. W. ROBERTSON

THE match was made possible by the generous attitude of the Committee of Arrangements of the Stock Exchange in furnishing the trophy, medals, ammunition and targets (we used the new-style regulation N. R. A. 50-foot target), as well as by the hearty and thorough co-operation of the Rifle Committee of the Crescent Athletic Club under the leadership of Mr. Frank G. Delbon who, with Messrs. Lediard and Colonel Outerbridge, kindly consented to act as a Judges Committee for us.

Last Saturday's match established two records in New York City. In the first place it brought together the largest number of high-school rifle teams ever before gathered for a tournament match in a single day. There were eighteen schools and the team from the New York Stock Exchange. Two other schools were entered but did not put in an appearance. In point of time it was the longest scholastic rifle tournament ever conducted in New York City, lasting from 9 o'clock in the morning till 5:55 in the evening.

The performance of Edward Walsh, the captain of the team from the Brooklyn Technical High School, was especially noteworthy in view of the fact that in another competition on Saturday morning he shot 189 out of a possible 200 on the old-style N. R. A. target, and then came to the Crescent Athletic Club, where the Stock Exchange match was held, and shot 189 out of a possible 200 on the new-style N. R. A. target.

The large bronze trophy furnished by the Stock Exchange became the property of the Thomas Jefferson High School for a year. Their score was 1,000 out of a possible 1,200. Each of the six members of the Thomas Jefferson team received a sterling-silver medal, and each member of the second high team, which in this case happens to be the Stock Exchange, received a bronze medal.

It might interest you to know also that apart from this annual rifle tournament among the New York City high schools this year we are conducting a tournament closed to employees of the Stock Exchange, and conducted on a handicap basis, for a sterling-silver loving cup, and gold, silver, and bronze medals, which have been furnished through the generosity of Mr. John E. Greenia, a member of the Stock Exchange.

You can see from this that we are doing our best to advance rifle marksmanship on a clean and wholesome basis in and about New York City.

Team and individual standings follow:

TEAM STANDING		Total
1. Thomas Jefferson	.....	1,000
2. Stock Exchange	.....	993
3. Morris	.....	960
4. Evander Childs	.....	952
5. Brooklyn Tech.	.....	947
6. Jamaica	.....	905
7. De Witt Clinton	.....	869
8. Manual	.....	867
9. Stuyvesant	.....	863
10. Richmond Hill	.....	850
11. Erasmus Hall	.....	843
12. Curtis	.....	819
13. Alexander Hamilton	.....	805
14. George Washington	.....	775
15. Bushwick	.....	749
16. Boys' High	.....	749
17. Haaren	.....	672
18. Textile	.....	529
19. Flushing	.....	508

INDIVIDUAL STANDING		
1. Walsh, Tech	.....	189
2. Davidowitz, Jefferson	.....	188
3. Damedowitz, Jefferson	.....	177
4. Stoutenberg, Tech	.....	177
5. Noloheff, Jefferson	.....	175
6. Arnold, Evander	.....	173
7. Cohen, Morris	.....	173
8. Milanos, Stock Exchange	.....	173
9. Stack, Jamaica	.....	170
10. Russell, Morris	.....	169

### ROBERTS ISLAND CHRISTMAS TURKEY SHOOT A SUCCESS

THE seventh Annual Christmas Turkey Shoot at the Roberts Island Rifle Club was a decided success. The local riflemen are very enthusiastic over the interest which was taken in the event by visitors, many of whom traveled hundreds of miles to reach the range on the Peter Ronkendorf ranch.

One hundred and fifty-nine turkeys were distributed. Most of the shooting was done on the 200-yard outdoor range at the 5-inch clay disks. It is estimated that over 3,000 shots were fired during the day, some of which were sighting shots. The 25-yard in-

door range proved popular with those who preferred to use .22 rifles with telescope sights.

Nearly two thousand people visited the clubhouse and grounds during the day. The shooting, which was scheduled to start at 9:30 in the morning, was delayed until afternoon on account of fog, but the committees in charge are very well satisfied with the crowd which gathered in the afternoon. Last year, when weather conditions were more favorable, 207 turkeys were won.

### SOMETHING NEW

By E. M. FARRIS, *Secretary N. & W. Railway Y. M. C. A.*

I BELIEVE noon-hour shooting is something not generally practiced in industries, though some of us office folk will slip onto the range between whistles, now and then. Our activities man, however, is lining up a shop league for this purpose in the local N. & W. departments. Here will gather car-repairers, engine mechanics, store-house employees, office men, blacksmiths, carpenters and officials to try their luck with the muskets, non-corrosive shorts and shimmying targets. No seasoned range performer is to be allowed; such must continue with or enlist with the club shooters that are considered our A group. It is a beginners' outfit pure and simple. Club officials will take responsibility for supervising the matches.

As men improve and show adaptability we will invite them into the A group and put them on a schedule that will try them out to the limit. We have confidence this is going to prove a boost to the game locally, making more material for the next International Railroad Small-Bore and the Ohio Rifle League event known as the International Railroad Individual Indoor Match, held at Columbus this year for the first time.

### JERSEY CITY HEARD FROM

THE Monticello Rifle Club, of Jersey City, N. J., held their monthly Sunday shoot on December 11, at which the secretary, as usual, carried off the honors and the monthly cup, with the wonderful (?) score of 87 out of a possible 100, on a 60-foot range.

The club was originally formed by a small number of intimate friends, all "pill-rollers," as a sort of "closed-corporation" affair, and then affiliated with the N. R. A. This didn't seem practical, and the members have now decided to relinquish their original idea and make a drive for new members in the hopes of increasing the number up to at least thirty-five.

None of the present members are good shots (half of them would need a shotgun to hit the bull at 60 feet) and the addition of more members would increase the pleasure and interest and give the material for team competition and also an opportunity to qualify in the qualification courses under better range facilities.

Last month a "turk" shoot was run off under the handicap plan, as suggested by the



secretary of the Wheeling Rifle Club, of West Virginia. The poorest shot of the club won the bird. As the plan worked in this case, as far as the prize itself was concerned, the same results would have been obtained by rolling the little white cubes. No fault was found, though, as everybody had a good time and thought it quite a big joke.

The secretary, now authorized to "start something," promises to put the club on the map and occasionally have material for insertion in the N. R. A. news section of THE AMERICAN RIFLEMAN.

#### HIGHLAND PARK WINNER IN LANSING PISTOL MATCH

By MAJ. PAYSON D. FOSTER, *State Secretary*

THE first of a series of indoor pistol matches was held at the armory of the 119th F. A., M. N. G., Lansing, Mich., December 11, with twelve five-men teams entered. This match was arranged for the purpose of stimulating interest among handgun shooters of the State and developing new men for the police, National Guard and civilian teams entered in the National Matches. Several new teams were entered in this match, and the interest shown would indicate that we will have a very successful season. We will close the season with an indoor pistol team match to be held at Lansing the latter part of April, 1928, at which time trophies, medals and prizes will be awarded to team and individual winners.

Capt. Jacob Lienhart, U. S. M. C., was executive officer of the match, and we were very ably assisted by Lieutenant Calhoun and James T. Parks, of the Detroit Police Department, and by A. J. Kirshner and Ralph Franklin, of the Highland Park Rifle and Revolver Club.

During the two years he has been stationed in Detroit Captain Lienhart has taken an active interest in every rifle and pistol match held in this section of the State.

All our matches will be limited to the use of a revolver or pistol of .38 caliber or larger, and the following course will be fired: Two scores five shots each, slow fire, one minute per shot at 60 feet; two scores five shots each, timed fire, 20 seconds per score at 40 feet; two scores five shots each, rapid fire, 15 seconds per score at 40 feet; 20-yard standard American target.

Teams finished in the following order:

Highland Park Rifle and Revolver Club—Team No. 1	1,089
Detroit Police Department	1,065
Highland Park—Team No. 2	832
Roosevelt R. and R. Club	798
Ypsilanti Rifle and Revolver Club	736
182nd F. A., M. N. G.—Team No. 1	729
Flint Police Department	721
Hdq. Co., 126 Inf., M. N. G.—Team No. 1	634
Hdq. Co., 126 Inf., M. N. G.—Team No. 2	557
182nd F. A., M. N. G.—Team No. 2	507
Officers 119th F. A., M. N. G.	447
Btry. A, 119 F. A., M. N. G.	380

Members of winning team: J. T. French, Capt. J. Lienhart, P. D. Foster, R. Franklin, and J. D. Lowry.

High individual scores in the team match were as follows:

J. D. Lowry, H. P. No. 1	240
Captain Lienhart, H. P. No. 1	237
J. T. Parks, Detroit Police	226

Following the team match 21 competitors entered an individual match firing the same course. James T. Parks, of the Police Department, won this match with the very excellent score of 251. L. Sanderson and G. Viau, also of the Detroit Police Department, finished in second and third places with scores of 234 and 233.

#### A BRILLIANT EXAMPLE FOR OTHER CLUBS

THE Roberts Island Rifle Club had charge of the program at the luncheon of the Stockton Lions Club the noon of December 13, 1927. The history of this pioneer shooters' organization of San Joaquin County was related by Walter W. Hubbard, secretary of the club. He said that the rifle range on the Peter Ronkendorf ranch is regarded by experts as the best-equipped civilian range in the United States.

E. J. Patterson, Delta farmer and vice president of the Rifle Club, spoke on "Turkey Shoots that Used To Be." He illustrated his talk with replicas of the old-fashioned targets and exhibited specimens of the guns used, including one of the earliest Winchester .22 repeaters, which was once the property of the late Gov. James Budd.

Judge C. P. Rendon, former president of the Rifle Club, told of the work of George Titherington, official gunsmith for the organization, who has made rifle barrels which have proven to be more accurate than those of the Eastern manufacturers. Mr. Titherington was present and explained his methods of boring and rifling barrels for extreme accuracy.

Gerald B. Wallace spoke of the trophies won by Roberts Island members in competition with other individuals and clubs, and expressed the view that the Rifle Club is a distinct asset to Stockton from a publicity standpoint.

The officers of the college of the Pacific branch of the Roberts Island Rifle Club were also the guests of the Lions.

James Wallis, college representative of the *Pacific Sportsman*, presented each member of the Lions Club with a complimentary copy of the official magazine of the Associated Sportsmen of California, the state-wide organization with which the Roberts Island Club and the College Club are affiliated. Herbert Gwinn gave an exhibition of how the clay disks to be used at the annual Christmas Shoot Sunday can be broken with a .22 rifle.

#### THE WARREN RIFLE AND REVOLVER CLUB

OF WARREN, PA., would like to arrange (mail) matches with any club having a 75-foot range. Address all communications to F. H. McCutchen, Secretary, 410 Hazel Street, Warren, Pa.

#### FLOOD CITY REVOLVER LEAGUE GETS UNDER WAY

THE Johnstown Police downed the Army Recruits, Conemaugh Valley defeated the Johnstown Bankers and the Bethlehem Steel team defeated the American Legion outfit in the first matches scheduled for the week ending January 10. Unusually excellent scores marked the opening of the league season.

Paul Hornick, secretary of the Flood City League, carried away high individual honors with a score of 285, while Earl Mills, the League president, was the second high gun with a total of 275. The American Legion team not having had sufficient time to organize, got away to a poor start, but this outfit, it is explained, has a good deal of material to select from and much better scores are expected from them in future matches.

Much credit is due Sergeant McGinnis and Sergeant Frank of the Harrisburg Army Recruiting Station for the splendid assistance extended the officers of the league in the conduct of the first match. The season opener was fired over the city range in the Public Safety Building and details in connection with shooting the match were unusually well carried out. The Power Street range and American Legion range were used for the other two meets.

Following is the schedule of future matches arranged for entrants of the Flood City Revolver League:

JANUARY 17, 1928	
Army Recruiting Bankers	Conemaugh Valley
Johnstown Police	American Legion
	Bethlehem Steel
JANUARY 24, 1928	
Conemaugh Valley	American Legion
Bethlehem Steel	Army Recruiting
Bankers	Johnstown Police
JANUARY 31, 1928	
Bankers	Bethlehem Steel
American Legion	Army Recruiting
Conemaugh Valley	Johnstown Police
FEBRUARY 7, 1928	
Bethlehem Steel	Conemaugh Valley
Johnstown Police	American Legion
Bankers	Army Recruiting
FEBRUARY 14, 1928	
Army Recruiting Bankers	Johnstown Police
Bethlehem Steel	Conemaugh Valley
	American Legion
FEBRUARY 21, 1928	
Conemaugh Valley	Army Recruiting
American Legion	Bankers
Bethlehem Steel	Johnstown Police
FEBRUARY 28, 1928	
American Legion	Conemaugh Valley
Army Recruiting	Bethlehem Steel
Johnstown Police	Bankers
MARCH 6, 1928	
Bethlehem Steel	Bankers
Army Recruiting	American Legion
Johnstown Police	Conemaugh Valley
MARCH 13, 1928	
Conemaugh Valley	Bethlehem Steel
American Legion	Johnstown Police
Army Recruiting	Bankers





(A Unit of the National Rifle Association devoted to teaching every boy and girl in America the safe and accurate handling of the rifle.)

Conducted by H. H. Goebel

## Rifle-Shooting a Permanent Activity In All Junior Institutions

**R**IFLE-SHOOTING as a sport is today accepted in the boy and girl institutions as a training of utmost importance. Boy and girl educators have come to realize the value of the activity and have given it a place in their athletic and physical program. Through the co-operation of the Junior Rifle Corps a plan of instruction, qualifications, and team matches is provided. Affiliated schools receive added assistance by means of an issue of range equipment, rifles, etc., by the Director of Civilian Marksmanship. A bond, however, is required for protection against loss or misuse of this equipment.

It is becoming increasingly apparent that elaborate equipment is unnecessary. Safety, however, is one of the primary considerations in the construction of a rifle range. Wherever institutions are affiliated we find ranges in the basements or under the rafters of their buildings which are quite suitable for conducting the sport. In some sections of the country boys and girls may be out of doors the greater part of the year. Although the indoor range may often be more pleasant, the outdoor range has proven generally satisfactory. The portable backstop has in some cases been put in use both indoors and out of doors. On rainy or dark cold days it is rolled out on the gymnasium floor and when the weather is pleasant used outdoors. This type of backstop is entirely safe with experienced shooters but is not recommended for beginners. Complete information with descriptions and blue prints giving dimensions, for these types of ranges may be obtained gratis from National Headquarters.

The sport of rifle-shooting is particularly adaptable as a School, Y. M. C. A., Church, Camp, or institutional activity, as all of the shooting takes place on your home range and it is not necessary for the team to travel. This plan eliminates excessive fares, hotel bills, and time away from studies. It places competitive, interesting, and practical activity in your hands. Further, you are absolutely assured that those with whom you are competing are doing likewise under proper supervision.

At this season of the year there are any number of matches, individual and team,

that are taking place. Programs have been provided the secretaries of all affiliated clubs and Junior members. If you haven't submitted your entry as an individual member, or if a club member, single out your secretary and see that the entries are submitted before it is too late. There is a closing date for entries in each of these matches, with the exception of the biweekly team matches, which are conducted from September until June.

The fact is that rifle-shooting is not only a sport but an activity that develops the vital power of concentration and self-control, which will help you materially in your studies. The sport is universal in its application, for girls and boys, women as well as men, are actively taking part. Many of the girls have demonstrated their ability to handle the rifle, outshooting many of the boys.

It is our ambition to charter a Junior Rifle Corps Club in every Junior institution of the country. Will you do your share to help realize it?

### 1928 AFFILIATION

**ALTHOUGH** all 1927 memberships expired on January 1, we are carrying this announcement as a last reminder to those who are slow to reaffiliate. Every individual member and medal-winner has received a special application for his or her renewal of membership. It was gratifying to see how many of these were returned, but there are still a goodly number that have not been heard from.

The Junior program of individual and team competition we believe to be about complete; but as it is our aim to provide and furnish competition that will be satisfactory and meet with your approval we would like to hear from you and to learn where the program can be improved. In a big organization such as ours little things are bound to creep in which oftentimes leave a feeling of dissatisfaction. As a rule such things can be readily remedied if they are mentioned promptly and frankly.

The fact remains that you who have not renewed your membership for 1928 have either let the matter slip by temporarily or

have lost interest in the work. At any rate write us at National Headquarters, so that your News will reach you regularly for another year without lapse.

All medal-winners, many of them club members but not individual members of the Junior Rifle Corps, have also received the News. Provided your club has reaffiliated for 1928 you are still entitled to this publication; but you must notify National Headquarters, so that your medal record will be carried over to the active 1928 files for your News mailing. If your club is not in good standing, see your instructor at once and have the club reaffiliate. It is also suggested that you take out an individual membership at 25 cents, so that you will be assured of having your News and at the same time be eligible to continue with your medal qualifications. Try to interest your friends and acquaint them with the program of the Corps. Send in their memberships along with yours.

### WESTERN HIGH, TULSA "Y," AND JOHN MARSHALL HIGH SCHOOL WINNERS IN FIRST SERIES OF BIWEEKLY MATCHES

**W**ITH the closing of the first series of matches consisting of seven matches conducted from September through December, we find the Western High School Boys' Team, of Washington, D. C., aggregating the highest number of points in Division A, the Tulsa Y. M. C. A. Rifle Team, of Tulsa, Okla., high team in Division B, and the John Marshall High School, of Richmond, Va., high team in Division C.

Before preparing a set program of matches for all-year competition the advice of affiliated club leaders was obtained. With the many constructive suggestions and criticisms offered for team competition the plan now in effect is the result. Briefly it consists of ten-men team matches conducted every other week, 5 high scores to count, 10 shots for record in the prone position. On the first team score submitted the teams were segregated into divisions according to their score but were given an opportunity to advance to keener competition at any time during the series of matches, but at no time allowed to lower their standing. In each of the divisions or leagues the first ten teams were allotted points in multiples of 30, 20, and 10, respectively, for each division. For the seven matches it was possible to aggregate 2,100 points in the A Division, 1,400 points in the B Division, and 700 points in the C Division.

The boys of Western High were able to bring their total up to 1,890 points. This is a remarkable figure, for it meant that the team had to be on top or runner-up in all seven matches. The Fresno High School Rifle Team, of Fresno, Calif., continued throughout the series of matches firing consistently to aggregate 1,650 points. Northwestern High, of Detroit, Mich., totaled 1,620 points, 30 points below Fresno. Each of these three teams has been awarded silver

cup trophies. The Grover Cleveland High School, of St. Louis, Mo., entered two teams in these matches, and the first team comes in for Honorable Mention in the A Division, with 1,320 points. The Evanston Township High School, of Evanston, Ill., also held up their reputation, coming in fifth in the standing with 1,110 points.

Competition and interest was just as keen in the B Division matches as in the A Division. The Tulsa "Y" Rifle Team, although threatening often to advance to Class A, did remarkably well in this series of matches, coming out on top with a total of 1,060 points. The second team of the Lewis and Clark High School, of Spokane, Wash., came second with 920 points, while the Porterville Union High School, of Porterville, Calif., second team came third with 660 points. The third team of Lewis and Clark pressed for third honors, bringing their total to 650 points. North Tarrytown High School, of North Tarrytown, N. Y., placed fifth with 550 points.

The John Marshall High School, of Richmond, Va., brought their total of points up to 450 out of a possible 700 for high honors in the C Division. The Wilby High School Boys' Team and the Wilby High School Girls' Team, of Waterbury, Conn., each totaled 180 points, but the Wilby Boys have been given second honors, while the Wilby Girls received third honors, as the tie was determined by the scores submitted. Ties in these matches are first determined by the number of matches in which a team competes, and secondly, by the aggregate score for the matches completed. The Ginter Park Rifle Club, of Richmond, Va., came in fourth with 160 points, while Leavenworth High School Girls' Rifle Team, of Waterbury, Conn., came in fifth with 150 points. Teams finishing first, second, or third in each of these divisions were awarded cup trophies.

## N. R. A. J. R. C. MATCH BULLETIN NO. 6

DIVISION A		Score	Pts.	Total
				score
1. Fresno High School, Fresno, Calif.	488	300	1,380	
2. Northwestern High, Detroit, Mich.	486	270	1,320	
3. New Trier High, Wilmette, Ill.	484	240	510	
4. Western High (Boys), Washington, D. C.	483	210	1,590	
5. Kingswood School, W. Hartford, Conn.	476	180	600	
6. Western High (Girls), Washington, D. C.	476	180	270	
7. Evanston Township High, Evanston, Ill.	473	150	1,050	
8. Malden High, Malden, Mass.	472	120	630	
9. G. Cleveland High, 1st Team, St. Louis, Mo.	466	90	1,200	
10. Porterville Union High, 1st Team, Porterville, Calif.	464	60	510	
11. Warren Harding High, Bridgeport, Conn.	464	60	60	
12. Davenport High, Davenport, Iowa	462	30	680	
13. Fresno Tech., Fresno, Calif.	460	...	480	
14. Centennial Jr. Rifle Club, Chicago, Ill.	457	...	720	
15. Lewis-Clark High, 1st Team, Spokane, Wash.	456	...	640	
16. Crosby High (Boys), 1st Team, Waterbury, Conn.	455	...	...	
17. Richmond Hill High, Richmond Hill, N. Y.	453	...	580	
18. G. Cleveland High, 2nd Team, St. Louis, Mo.	446	...	150	
19. Curtis High, Staten Island, N. Y.	431	...	660	
20. Central High, Syracuse, N. Y.	423	...	240	

## DIVISION B

1. Tulsa "Y" Tulsa, Okla.	443	200	920
2. Leavenworth (Boys), Waterbury, Conn.	438	180	180
3. Lewis-Clark High, 2nd Team, Spokane, Wash.	430	160	820
4. Y. M. C. A., Great Falls, Mont.	430	160	160
5. Crosby High (Girls), Waterbury, Conn.	426	140	140
6. Lewis-Clark High, 3rd Team, Spokane, Wash.	415	120	590
7. Porterville U. High, 2nd Team, Porterville, Calif.	406	100	540
8. Luther High, Luther, Okla.	406	100	490
9. Central High, Newark, N. J.	403	80	500
10. Crosby High (Boys), 2nd Team, Waterbury, Conn.	402	60	60
11. No. Tarrytown High, No. Tarrytown, N. Y.	356	40	550

## DIVISION C

1. John Marshall High, Richmond, Va.	395	100	450
2. Wilby High (Girls), Waterbury, Conn.	347	90	90
3. Wilby High (Boys), Waterbury, Conn.	339	80	80
4. Leavenworth High (Girls), Waterbury, Conn.	295	70	70
5. Glendale Jr. Rifle Club, Kirkwood, Mo.	244	60	60
6. Bonita Union High, La Verne, Calif.	399	50	330
7. Ginter Park Rifle Club, Richmond, Va.	...	...	160
8. Christian Church, Morgantown, W. Va.	...	...	70
9. Saratoga Boy Scouts, Saratoga, Calif.	...	...	60

The second series of matches started with week ending January 7 and ending March 17 are going to be even more successful than the first series, for already seventy-five teams have been supplied with the necessary targets and instructions for competition. In many instances institutions have entered more than one team, which is good practice, for it gives practically everyone an opportunity to compete in national competition for honors. It is interesting to note that the competition is not entirely confined to boy teams or to schools, for the Y. M. C. A.'s and independent organizations are also represented. The girls, too, are coming in for their share of competition, and it is surprising what splendid results they have obtained. Individual members and club members who have not entered their team, go to your leader and see that a team is organized in your institution and that your club enters immediately and takes advantage of this splendid program arranged for Junior Clubs.

We feel that these matches are the best part of our program, for it is competition with others than tends to keep up the interest and enthusiasm in the sport. We can never hope to get any more out of the program than we put into it and your club will go a long way toward stabilizing and making for continued improvement by entering these contests.

## BULLETIN NO. 7

FIRST SERIES, N. R. A. J. R. C. MATCHES, DECEMBER 17, 1927

## DIVISION A

	Score	Pts.	Total
			pts.
1. Western High (Boys), Washington, D. C.	488	300	1,890*
2. Northwestern High, Detroit, Mich.	488	300	1,620†
3. Fresno High, Fresno, Calif.	486	270	1,650†
4. Kingswood School, Hartford, Conn.	485	240	840
5. New Trier High, Wilmette, Ill.	482	210	720
6. Malden High, Malden, Mass.	474	180	810
7. Western High (Girls), Washington, D. C.	472	150	420
8. G. Cleveland, 1st Team, St. Louis, Mo.	471	120	1,320
9. Porterville U. High, 1st Team, Porterville, Calif.	468	90	800

10. Evanston Township High, Evanston, Ill.	466	60	1,110
11. Centennial J. R. Club, Chicago, Ill.	466	60	780
12. Hill School, Pottstown, Pa.	466	60	60
13. Davenport High, Davenport, Iowa	465	30	710
14. Lewis-Clark, 1st Team, Spokane, Wash.	454	...	640
15. G. Cleveland, 2nd Team, St. Louis, Mo.	454	...	150
16. Fresno Tech, Fresno, Calif.	452	...	430
17. Richmond Hill High, Richmond Hill, N. Y.	448	...	580
18. Crosby High, 1st Team (Boys), Waterbury, Conn.	447	...	...
19. Central High, Syracuse, N. Y.	435	...	240
20. Curtis High, Staten Island, N. Y.	432	...	660
21. Warren Harding High, Bridgeport, Conn.	...	...	60

## DIVISION B

1. Y. M. C. A., Great Falls, Mont.	443	200	360
2. Ridgewood High, Ridgewood, N. J.	441	180	180
3. Leavenworth High (Boys), Waterbury, Conn.	439	160	340
4. Tulsa "Y", Tulsa, Okla.	434	140	1,060*
5. Porterville U. High, 2nd Team, Porterville, Calif.	430	120	660†
6. Lewis-Clark, 2nd Team, Spokane, Wash.	424	100	920†
7. Crosby High (Girls), Waterbury, Conn.	423	80	220
8. Lewis-Clark, 3rd Team, Spokane, Wash.	421	60	650
9. Central High, Newark, N. J.	409	40	540
10. Crosby High (Boys), 2nd Team, Waterbury, Conn.	409	40	100
11. Bonita U. High, La Verne, Calif.	406	20	350
12. Pawnee Junior Rifle Club, New York, N. Y.	403	...	...
13. Luther High School, Luther, Okla.	398	...	490
14. N. Tarrytown High, N. Tarrytown, N. Y.	392	...	550

## DIVISION C

1. Wilby High (Boys), Waterbury, Conn.	382	100	180†
2. Wilby High (Girls), Waterbury, Conn.	364	90	180†
3. Leavenworth High (Girls), Waterbury, Conn.	337	80	150
4. John Marshall High, Richmond, Va.	...	...	450*
5. Glendale Junior Rifle Club, Kirkwood, Mo.	...	...	60
6. Ginter Park Rifle Club, Richmond, Va.	...	...	160
7. Christian Church, Morgantown, W. Va.	...	...	70
8. Saratoga Boy Scouts, Saratoga, Calif.	...	...	60

\* First Place † Second Place ‡ Third Place

## SCHOLASTIC AND JUNIOR MATCHES

THERE isn't the slightest chance of an individual or Junior Rifle Club affiliated with the National Rifle Association going stale if they will participate in the program of matches prepared and scheduled for the coming month. The individual Scholastic and Military School Championship Matches are now completed and the teams are now coming in for their share of national competition.

Entries for the Freshman Team and the Interscholastic Tyro Team Matches close on February 10. The Interscholastic Tyro Team Match is open to one or more teams of not more than ten tyros from any public or private, high or preparatory school other than military schools affiliated with the National Rifle Association. The conditions call for three stages, each of two sighters and ten shots for record; prone position. Five high scores in each stage to count for record. The match may be fired any time during the month and returns are due not later than March 1. This match gives every scholastic institution with the exception of military schools a fine opportunity to meet in national competition with inexperienced teams.

During the month of March the Inter-



scholastic Team, Military School Team, and Girls' Interscholastic Team Matches are scheduled. Team entry in each of these events is \$5, and entries close on March 10, the match to be fired any time during the month.

The Interscholastic Team Championship is open to one or more teams of not more than ten from any affiliated school other than military schools. The conditions call for three stages. Each should be completed in one day. Each stage consists of two strings each of two sighting shots and ten shots for record fired in the following order: First stage, two strings prone; second stage, one string prone, one kneeling; third stage, one string prone, one standing. To the winning team the title "High-School Gallery Champions, 1928," the Inter-High School Indoor Trophy to be held for one year or until the next competition, and five silver medals. Bronze medals to the members of second and third teams.

The Military School Team Championship is open to one or more teams or not more than ten from any Military School affiliated with the National Rifle Association. The conditions are four stages, an entire stage to be completed in one day. Each stage consists of two strings, each of two sighting shots and ten shots for record fired in the following order: First stage, two strings prone; second stage, one string prone, one kneeling; third stage, one string prone, one kneeling; fourth stage, one string prone, one standing. To the winning team the title of "Military School Champions for the year 1928," the Military School Indoor Trophy, to be held for one year or until the next competition, and five silver medals. Bronze medals to members of second and third teams. All returns are due not later than April 1.

The Girls' Interscholastic Team Championship is open to teams of not more than ten from any public, private, high or preparatory school affiliated with the National Rifle Association. There are three stages, five high scores in each stage to count for record. Each stage consists of two sighting shots, ten shots for record prone. To the winning team the title "Interscholastic Rifle Champions, 1928—Girls' Division," and five silver medals. To the second and third teams bronze medals.

#### EXPERTS AND DISTINGUISHED RIFLEMEN

THE Honor Roll of Junior Rifle Corps Experts and Distinguished Riflemen is fast mounting, for again eight of our members have completed the necessary requirements for Expert Rifleman and three for Distinguished Rifleman. These members have become expert in all four positions and for Distinguished Rifleman have made their scores consecutively.

The Distinguished Rifleman conditions have been altered many times and we want to again call to the attention of our members that scores must be made on the new standard 50-foot 5-bull target, placing but

two shots in each bull's-eye. Ten targets are made in each of the four positions, and in the prone and sitting positions each bull's-eye must score 18 points or better. In the kneeling and standing positions each bull's-eye must score 16 points or better. The targets need not be made consecutively, although the qualifying shots on each target in all five bulls must be made consecutively. Targets for the complete course in four stages are submitted in one mailing for the Distinguished Rifleman Bar for attachment to the Expert Rifleman Medal which is issued gratis.

#### EXPERT RIFLEMEN

Louis Roth, Knoxville, Tenn.  
C. Sulander, Chicago, Ill.  
C. Urbas, Chicago, Ill.  
Henry Gundeck, South Bend, Ind.  
F. E. Sutphen, Boonville, Mo.  
Helen Krieger, Detroit, Mich.  
Robert Robertson, Orlando, Fla.  
D. L. Baker, Boonville, Mo.

#### DISTINGUISHED RIFLEMEN

Fred Lyman, Nevada, Iowa.  
Paul Ashmore, Zanesville, Ohio.  
Louis Christman, Denver, Colo.

#### KEEP YOUR RANGE CHEERFUL

INDOOR ranges or galleries as they are generally referred to are usually located in the basement of buildings providing the necessary space. The tendency has been to bury them in some dark corner where everything is covered with dirt and dust. No one wants to go into an untidy place, and there is no need of a rifle range being disorderly any more than any other equipment.

Unless your backstop is constructed of sheet iron or steel replace the parts that are in need of repairs. A box of sand placed below the backstop will take up the lead which has been deflected, eliminating a scattering all over the floor.

At the firing point do you throw your targets on the floor when they do not satisfy you, or worse still, do you tear them up into a thousand pieces and leave them for someone else to pick up? Why not a box or waste basket or some receptacle in which you can put all waste targets, paper and cartridge boxes? A cleaning rack should also be provided, but keep it tidy. Don't leave waste patches on the rack or floor. Sweep up the shells, and salvage them. We continue to hear of clubs that have made as high as ten dollars by salvaging shells and waste lead.

What is more annoying than to come to the range all enthused and prepared for a high score and find the range partially lighted? Your range officer should check up on lights each time before leaving the range so that everything is in working order for the next shooting period.

Then there is the matter of seats for those who are waiting their turn or for friends who have come in to see the shoot. The firing point and back of it should be just as at-

tractive as you can make it. To be sure when firing, the lights are dimmed but in space near by a desk or table should be set up for the club secretary or for members to fill in their targets. Lockers in which members may securely leave shooting equipment are also desirable.

Is your range plastered with all makes and kinds of signs? It is very much better that you select some attractive pictures and pennants to brighten up the range than to have it look like a billboard in disgrace. Provide a space for a bulletin board on which items from the News, helpful suggestions, scores, notices of future events, etc., may be posted.

Heating and ventilation should by all means be provided for. A warm, clean range means a happy lot of shooters, while a cold dismal range means a steadily diminishing group of dissatisfied shooters. Powder fumes become unpleasant and will irritate the eyes and throat unless they are removed. If no other means of ventilation is available an electric fan will serve to keep the fumes moving down the range or out the door away from the shooters.

All of these things are important. An attractive range will attract others to your range and it will give the public a new idea of the sport of rifle shooting.

#### MOSTLY PERSONAL

WE AT National Headquarters are eager to devote considerable space in our News columns to the progressive work of our many individuals and clubs throughout the country. The extent of this will of course depend upon the amount of material furnished by our members, and you are urged to send in such material as will be of interest to our many readers.

One of our former instructors of the Junior Rifle Corps, Mr. J. W. Stuart, who several years ago organized and led Unit No. 2312 to the front, has again written us advising that he is reorganizing the work at Omaha, Nebr. Up to date information and forms have been furnished Instructor Stuart and we look forward with pleasure to his further co-operation.

The St. Louis Country Day School of Wellston, Mo., is being reorganized after an inactive period of a year or so, and the new officers and members are out in earnest to again bring their club to the front. We welcome this club to our large family of shooters.

Mr. G. S. Dates, of East Orange, N. J., is taking an active part in coaching his sons as well as their pals in qualifying for the Junior Rifle Corps awards. Targets have just been received from Kenneth, qualifying for the Sharpshooter award and the first four bars won in the prone position, while Chester recently submitted targets of the Marksman grade.

Mr. Dates advises that he has constructed



one of the finest private small-bore 50-foot ranges in the country. This range is entirely underground, constructed of 12 x 2-inch flue-tile pipe with a concrete pit at the butts, electrically lighted and a fine trolley system for changing the targets, also a concrete pit at the firing-line for offhand shooting.

Joseph Geraghty, one of our Expert Riflemen well on the way to the Distinguished goal, is making every effort to organize a rifle club affiliated with the Junior Rifle Corps at the Cretin High School. All prospects seem favorable as the team coach, Sergeant Hopp, has readily agreed to be the instructor. Joseph also holds an assistant instructor's commission with the Junior Rifle Corps, which was awarded after completing the Correspondence Instructors' Training Course in ten lessons.

We are always glad to hear from our former members and to learn of their continued interest in the Junior Rifle Corps. Word has been received from Miss Georgiana H. Peeney, who several years ago was an active member of the Evanston Township High School Rifle Club. Miss Peeney, who has successfully made the college freshman team, writes us: "The Junior Rifle Corps certainly is an ideal organization to interest and benefit the growing boy and girl. May it prosper for many years to come."

The New Trier High School of Wilmette, Ill., has again reorganized for another year and the new officers and members are out in earnest to bring their club to the front. Instructor P. W. Crumlish is the leader of this group, which he has entered in the last three matches of the first period. Although it was their first tryout at these events, the club placed second in the A Division for week ending November 19. Entry has also been made in the second short period of matches and Instructor Crumlish promises to furnish stiff opposition to all competitors.

Maj. Z. S. Leymel of Fresno, Calif., sent in the first entry in the second period of biweekly matches for his two clubs—Fresno High and Fresno Tech. Six Pro-Marksman qualifications, 6 Marksman, and 4 Sharpshooter qualifications were also received and awards presented.

We extend a cordial welcome to the Pillsbury Military Academy, of Owatonna, Minn., whose affiliation as a Junior Rifle Club has been recorded. This club has in the past been affiliated as individual members of the Corps and has made an excellent showing, having qualified several of its members for the 500 Possible Bars leading to the Expert Rifleman qualifications. Seventy-one members have been enrolled under the supervision of Mr. Lucius Caswell, the instructor.

The Richmond Hill High School Rifle Club, of Richmond Hill, N. Y., is going right after things as far as medal qualifica-

tions are concerned. Mr. W. A. Andrews, leader of this group, has recently submitted qualifications for Expert rating made by Milton Storck and advises that there are eight more members well on the road to this qualification. At the completion of the Expert and Distinguished Rifleman course these members will be trained through the Correspondence Instructors' Training Course to become assistants to Mr. Andrews.

Rifle-shooting has been adopted at the Los Alamos Ranch School, Otowi, N. Mex. This club, known as "Los Rifleros," is under the supervision of Mr. William Jenney and has a membership of 15 enthusiastic boys.

The Central High School Rifle Club of Syracuse, N. Y., is preparing for its most successful season. Having entered two teams in the biweekly Inter-Club Matches conducted by National Headquarters, Instructor C. V. Hartson is also staging a fifty-round competition among the girl and boy teams for individual and club honors. The scores of individuals are posted each week and at the close a banquet is given in honor of the winning team, who are entertained by those less fortunate. This form of competition in past years has created much enthusiasm among its contestants, each endeavoring to better their former record, and Instructor Hartson advises that the waiting list of prospective members is larger than the present membership of the club.

Mr. Willard Day, of the Y. M. C. A. Junior Rifle Club of Great Falls, Mont., writes us that they are eager and ready to compete in the Junior Biweekly Matches. This club was organized around the first of November with a membership of 250 boys, and there is every prospect of one of the best teams in the Corps.

"Rifle-shooting develops manhood in boys," says Instructor A. H. Eichholz, of the Hyde Park Y. M. C. A., who has conducted the sport for five years. When asked, "How many accidents have you had?" Instructor Eichholz answers, "None, but beyond that we who have conducted the activity feel assured that some one thousand boys have in the last five years developed qualities of fair play, manliness and self-control."

"Rifle-shooting affords an excellent opportunity to create greater friendship between father and son," continues Instructor Eichholz. "Thirty-two teams of fathers and sons recently appeared on the range and all participated in the Father-and-Son Rifle Match. Everyone had an exceedingly good time shooting, getting acquainted and feasting on apple cider and doughnuts."

As a character-building sport, rifle-shooting teaches the boy, first, the safe and accurate handling of a rifle; second, the appreciation of a rifle—to him it changes from a toy plaything to a stick of dynamite; third, he learns that small things may be of extremely big consequence; fourth, difficult

tasks become easy and delightful when he has learned to master them; fifth, all through the phases of this activity he senses the value of being a true sportsman. He can not but become thoughtful and considerate of the other fellow. A jar, a touch, a word at the wrong time may spoil the other fellow's shot. These are some of the worth-while results that have proven through experience on the Hyde Park rifle range, and letters from other associations have been received asking for information concerning the advisability of operating a rifle range for boys.

The Kemper Military Academy, of Boonville, Mo., under the direction of Col. J. B. Barnes, started things rolling by submitting affidavits and targets for 133 qualifications. This included 52 Bars and 2 Expert Rifleman qualifications, which indicate that interest is keener than ever.

During the past months of November, December, and the first weeks of January seven of our adult leaders have completed the Correspondence Instructors' Training Course and received their commissions, while many more are far advanced. Five of this number have also sent in qualifying targets and received their Instructor's Medal. These leaders are as follows: Instructor J. Cox, of Saratoga, Calif.; David Cohen, of Brooklyn, N. Y.; Theodore Senelick, of Chicago, Ill.; G. T. Costello, of Winter Haven, Fla.; Rev. Henry Scherer, of Fremont, Nebr.; Russell H. Minnerly, of North Tarrytown, N. Y., and Distinguished Rifleman Donald R. Wilson, who is an active promoter at the Hyde Park Y. M. C. A. of Chicago, Ill.

This course is absolutely free, and the only requirements are that the rules and regulations of the Corps be carried out and that the candidate will agree to assist us in carrying out the object of the Corps "to teach every boy and girl in America how to safely and accurately handle the rifle," and also that they take over an active club if it is at all possible. To you Mr. Active Instructor this would be worth while. Have someone you would like to have as your assistant take this course. Let us know of those you have in mind and let us help you get them into shape.

Instructor Ernest E. Altick of the Wichita Y. M. C. A., Wichita, Kans., has also submitted his club reaffiliation and qualifications for 15 Pro-Marksman, 4 Marksman, and 1 Possible Bar. The work at the "Y" has become so extensive that Instructor Altick has been obliged to train an associate leader. Mr. Coyne has been chosen as assistant.

The Y. M. C. A. Junior Rifle Club, of La Porte, Ind., conducted by Instructor V. N. Woodington, submitted 87 qualifications, 43 Pro-Marksman, 27 Marksman, 10 Sharpshooter, and 7 Bars. Many of these winners accepted their medal and pin awards in addition to the diplomas in recognition of their accomplishments.



Conducted by Lieut. Col. G. C. Shaw

Address: Director Civilian Marksmanship, War Department, Washington, D. C.

### NEW PACKING AND HANDLING CHARGES ON SMALL-ARMS AMMUNITION AND COMPONENTS, EFFECTIVE JANUARY 1, 1928

THE following packing and handling charges have been established by the Ordnance Department on all sales of small-arms ammunition and components:

	Price
Ammunition, small arms, in less than standard packages, only one . . . . .	\$.75
Each additional one . . . . .	.75
Ammunition, small arms, in standard packages . . . . .	.50
Each additional one . . . . .	.15
Bullets, small arms, 500 or less . . . . .	.75
Each additional 500 or less . . . . .	.50
Cartridge cases, small arms, 1,000 or less . . . . .	.75
Each additional 1,000 or less . . . . .	.50
Primers, small arms, 1,000 or less . . . . .	.30
Each additional 1,000 or less . . . . .	.10
Powder, small arms* 1 lb. . . . .	.30
2 lbs. . . . .	.40
7 lbs. . . . .	.50
10 lbs. . . . .	.80
15 lbs. . . . .	1.00
25 lbs. . . . .	1.25
50 lbs. . . . .	1.75

\* All amounts include cost of container.

Please make proper remittances.

### PISTOL POWDER AVAILABLE

**BULL'S-EYE** Pistol Powder at \$1.43 a pound and Pistol Powder No. 5 at \$1.59 a pound are now available for sale through this office. Shipments are made from Frankford Arsenal, Philadelphia, Pa. Packing charges, 35 cents for any amount when powder only is ordered.

It is not necessary to order a container to carry your powder, as it is packed in canisters. Purchasers of powder should remember that powder must be shipped by freight and that the minimum freight charge is for 100 pounds.

### TRAINING REGULATIONS

**TRAINING** Regulations Nos. 15-5 and 150-10 (Rifle Marksmanship) and Training Regulations No. 150-20 (Pistol Marksmanship) are not available for free distribution, but may be obtained through this office or from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the following cost: TR 150-5, 10 cents; TR 150-10, 5 cents; TR 150-20, 10 cents. Do not send stamps.

### HELP WANTED

THE D. C. M. invites you to help us with our clerical work. It is steadily increasing, but the clerical force does not grow with the increase of work. We want to do everything we can for the shooter as fast as possible, so that he can get his supplies without delay. However, we find the clerical work could be reduced and many delays eliminated with a little help from you. A large amount of mail is sent to the D. C. M. which is intended for the N. R. A., and vice versa. This causes considerable delay in action on the letters and much additional clerical work, as nearly all letters contain remittances and have to be carefully recorded. The address of the Office of the Director of Civilian Marksmanship is Room 1635, Temporary Building No. 5, 20th and C Streets N. W., Washington, D. C. The address of the National Rifle Association is Barr Building, 17th Street near K Street N. W., Washington, D. C. The two offices are a considerable distance apart, and misdirected letters have to be remailed. This causes considerable delay and extra work.

Send to the D. C. M. letters relating to the following:

Purchase of Government arms, ammunition, and target material;  
Property accounts, requisitions, reports of firing, and bonds of civilian rifle clubs.

Send to the N. R. A. the letters relating to the following:

Membership in the N. R. A.;  
Affiliation of clubs with the N. R. A.;  
N. R. A. and J. R. C. matches;  
Purchase of commercial arms, ammunition, and target material.

In regard to the purchase of supplies, there are two price lists which you use at present, one of Government supplies sold through the D. C. M., and the other of supplies, not Government, sold through the N. R. A. Service Co. Regarding the Government stores sold through the D. C. M., please read the price list carefully and note prices and instructions. Do not send personal checks to the D. C. M. Your remittances have to be sent to Government arsenals, as the D. C. M. has no stock of supplies. The Government arsenals will not accept personal checks. Send money orders, drafts, or certified checks

made payable to the Director of Civilian Marksmanship.

With reference to property returns of clubs, please see that the returns are carefully and fully filled out in all columns and then signed. Many come in not entirely filled out and unsigned and have to be returned for completion. This makes extra work at both ends and delays the filling of your requisitions.

Regarding shipping tickets and memo receipts, please sign and send to the D. C. M. as soon as you receive the property and ammunition covered by them. This is very important, as the D. C. M. has to give a receipt to the Ordnance Department for every shipment of supplies and ammunition sent to any rifle club. It can not do this until the signed shipping ticket or memo receipt (for .30-caliber ammunition) is received from the club. The shipping arsenal calls on the D. C. M. for receipts within a month of shipment, and if the receipts have not been received from the club the D. C. M. has to write to the club for them. In many cases the D. C. M. has to send three or four letters to clubs before obtaining receipts from them and often has to threaten withdrawal of stores. This causes extra work and everyone suffers. As soon as you get your property sign and send to D. C. M. the shipping ticket or memo receipts covering the shipment.

Another source of extra work is marksmanship qualification. The D. C. M. must have full names for these records. The names must be as follows:

"John James Johnson," not J. J. Johnson, or John J. Johnson, or J. James Johnson.

Our file of names is so large that we must have full names in order to keep correct record. Compliance with this request will hasten the shipment of your marksmanship insignia.

If each person or club will help us a little on the above matters you will find that you get your supplies quicker.

### EXCHANGE OF RIFLES

**IN CASE** the rifles issued to your club by the D. C. M. are worn out, the D. C. M. will arrange to have them exchanged for others of the same type. Notify the D. C. M. that the present rifles are worn out and request that others be issued. The D. C. M. will give you the necessary shipping instructions, and as soon as the D. C. M. is notified that the rifles have been received at the arsenal, requisitions will be approved for another lot of the same type. The club will have to stand transportation charges both ways. There is no charge for replacement of rifles worn out through fair wear and tear. Rifles worn out through neglect will have to be paid for by the club before others can be issued. Do not ship rifles until you receive instructions from the D. C. M. Attend to this promptly if you want to exchange your rifles.



## Manufacture and Testing of .22-Caliber Rifles

(Continued from Page 14)

give it a thorough examination for general condition of component parts, finish and condition of the interior of the barrel, outside appearance, smoothness of action, etc. All guns which are finally approved are thoroughly greased, packed in suitable cartons and cases and delivered to the warehouse ready to be shipped to the customer.

If you happen to be the owner of a Model 52 Winchester you will notice that the face of the trigger is corrugated to give good contact, and that the trigger pull is of military type, with a smooth first pull and a sharp release. The design of the magazine is unique; it is curved to provide room for the rims of the cartridges instead of being of the usual box type. Every cartridge, therefore, is kept in perfect alignment with the chamber. The cartridge is fed up from the magazine and held directly in front of the bolt by the double extractors with which the rifle is equipped. Thus it is carried directly into the chamber by the bolt instead of being pushed in. Consequently there is no shaving of the bullet, no matter how rapidly the rifle is operated. Since the accuracy of any am-

munition depends vitally upon the symmetry and balance of the bullet, this avoidance of clipping by the mouth of the chamber as the cartridge enters is an important factor. The magazine release, located on the right side of the gun, is so designed that by pressing the magazine release plunger with the thumb of the right hand the empty magazine drops into the hand and can be replaced with a full one.

The manufacturing organization at the Winchester plant are alert to the responsibility resting upon them in maintaining the quality of this gun. Since 1919 there has been no let-up in the rigidity of tests in the close control of the quality which was originally established. On the contrary, there have been additional tests devised the better to control this quality.

There is a sense of pride in manufacturing which goes along with each gun when it is sent to the warehouse ready for shipment. We are proud of each gun which is produced and it is our sincere hope that the owner of a Winchester Model 52 rifle will experience the same feeling of satisfaction in the performance of his gun as Winchester Repeating Arms Co. feels in the manufacture of it. Pride in ownership is the logical result of pride in manufacture.

A conscientious use of this aiming device will result in marked improvement in qualifications on any rifle range.

## International Practice Equipment

(Continued from Page 7)

dividual or club. This calls for a scheme of providing satisfactory reduced International targets. If the range happens to be 100 yards the targets can be bought; but there are no targets in print for the standard gallery ranges; so these must be made.

The making of practice targets is not so difficult as it may at first seem. To make the "black," ten to five rings, inclusive, proceed as follows: Using the formula solve for T, the diameter of the black; T (in inches) =  $.07 \times \text{range (in yards)}$ . T then gives the proper size aiming bull's-eye for that particular range. An easy way to make that much of the target is to cut the proper size hole in a piece of stiff paper or cardboard, place it on the blank paper to be used as the target, and paint the bull's-eye with a fast-drying marking paint.

The inner rings may be put in with a pen compass and white ink, or if the score is desired only after a group of shots the following method of scoring may be used: Cut a piece of isinglass the size of the black part of the bull's-eye; divide the radius of this circle into six equal parts; and with a pair of dividers make heavily-scratched circles on the six division points, to represent the 10, 9, 8, 7, 6, and 5 rings, respectively. By placing this piece of transparent material over the bull's-eye the value of the group can be seen at once. The other four rings need not be considered on the short-range target, although they may be easily included by using a larger piece of isinglass.

The size of the 10-ring is computed by dividing the diameter of the "black" by 6. The size of the other rings are similarly figured. For example, suppose the convenient range is 25 yards; the computing is done as follows: T (black) =  $.07 \times 25 = 1.75$  inches, the aiming bull's-eye at this range; dividing 1.75 by 6, the 10-ring is found to be .29 of an inch in diameter. The diameter of the 9-ring is .58 of an inch; the 8 is .87; the 7, 1.16; the 6, 1.45, and the 5, 1.75.

In case there are bull's-eyes of any size already on hand the proper range at which to get the appearance of the International target can be determined by using the reverse of the above formula; range (in yards) =  $T \text{ (in inches)} \times 100$

7

While these targets are in exact ratio to the standard 300-meter target the scores are not exactly proportional, due mostly to the disproportionate size of the .22 bullet hole on such a small target. However, much excellent practice can be had, conveniently and inexpensively, with these targets and the "fixed-up" .22 Springfield.

## The Shaker Aiming Device

(Continued from Page 9)

directed. The coach then directs the assistant to place the sighting disk over the stationary bull's-eye somewhere out of the line of sight, and directs the assistant to

move the disk up or down, or to the right or left, until it is properly aligned, when he calls, "Mark," at which command the assistant holds the disk in that position. The recruit is then asked to explain how the alignment looks to him. If

it appears to be correct to the recruit he is directed to repeat the operation just performed by the coach. This exercise is repeated until the recruit is able to align the sights properly and promptly. If not correct the instructor should check up the alignment of the recruit's rifle and make sure that it has not been moved.

### General Remarks:

In addition to the instruction practice and the use on the school range in .22-caliber rifle firing, this device is very useful on the .30-caliber rifle range at the firing point, aligned on one of the regular targets, to be used as a check on firers who develop faults which are suspected as being due to incorrect aiming.







## THE DOPE BAG



**A Free Service to Target, Big Game and Field Shots—All questions answered directly by mail**

Rifles and Big Game Hunting: Lt.-Col. Townsend Whelen

Shotgun and Field Shooting: Captain Charles Askins

Pistols and Revolvers: Major J. S. Hatcher

Every Care is used in collecting data for questions submitted, but no responsibility is assumed for any accidents which may occur.

### Latest Dope On Hunting Telescope Sights

By Townsend Whelen

SOME time ago I asked you about a Remington 30 Express rifle, and you advised .32 Special; but along came a good buy in .30-06, and thinking I might some time need it I purchased it. Now, what I want to know is, what is the best scope and mount to put on this gun? I have just finished reading N. H. Robert's article in the November issue of the *RIFLEMAN* about the new Hensoldt Klein-Dialyt scope. It reads well, but I have been sort of partial to the B. & M., although I know nothing of either. In fact, I have not ever seen one. Griffin & Howe have announced their new scope mount. Can you give any information on it; its cost, for instance?

Does the improved stock as put out by B. & M. for the 30 Express come fitted with a butt plate or are they cut off straight so as to enable one to install a recoil pad, which I am unable to do on my present stock? What is the price of same?

In the Dope Bag for November, 1927, you say the Winchester .54 carbine will give one inch smaller groups than the Remington. Why is this?

My Remington is still new, and the bolt works quite hard, even after smoothing up the working parts with an oil stone. Can you tell me of any way to limber this action up a bit?—H. T.

Answer (by Colonel Whelen). When I advised a Remington Model 30 rifle in .32 Special caliber I think that it was because you wrote me that you wanted the rifle for deer and black bear. The .32 Special caliber has ample power and accuracy for such game, and barrels for this cartridge have a longer life than those for the .30-06 cartridge, and are easier to clean. The ammunition is much cheaper, and the recoil much lighter.

However, the same rifle in .30-06 caliber makes a much better all-around rifle, is slightly more accurate, can be reloaded with a great many useful loads, and it is powerful enough for any American game. If you reload your ammunition bill will be lighter than for factory .32 Special cartridges. I do not think that you made any mistake, therefore, in getting your rifle in .30-06 caliber.

I doubt if this rifle will be entirely

satisfactory for your use, however, with the factory stock. That stock is good only for big-game shooting in the standing position. For any other use, or any other position it is an exceedingly poor stock. It does not permit the steady holding in any position which our modern marksmanship methods have taught us is possible, nor is it a good stock for snap-shooting or rapid fire. And it is absolutely out of the question so far as the telescope sight is concerned. I should not advise a telescope sight on this rifle if the factory stock is to be retained, because I feel that one can not aim steadily with the telescope and this stock, and that therefore the one thing that the telescope was placed on the rifle to obtain—namely, better accuracy—is made impossible by the stock.

The new Belding & Mull Special stock for this rifle is splendid in every way. This stock is made by the Remington Arms Co. by machinery specially for Belding & Mull. It is of exactly the correct dimensions for the average American rifleman who is trained by modern methods, it is made of a good grade of American walnut, is well checked, has fine sling swivels which are correctly placed and noiseless, and it is provided with a fine steel shotgun butt plate of correct size made by Belding & Mull themselves. A soft-rubber butt plate can be fitted instead of the steel butt plate, but it is not necessary as the splendid shape of the stock very greatly decreases the appreciable recoil. I should very strongly advise you to have your rifle equipped with this special stock as soon as possible. I think that the rifle will rise 1,000 per cent in your estimation when you have done this. If you have any idea of afterwards equipping your rifle with a Belding & Mull telescope the stock should be obtained without any recess cut in it for the Lyman No. 48 sight because the Lyman No. 48 sight can not be used on the Remington rifle if it is fitted with this telescope.

Now for the telescope itself. To make the matter plain it is necessary to divide hunting telescope sights into two classes—the non-adjustable class and the adjustable class.

The non-adjustable class comprise the smaller telescopes, like the Noske 3-power

Field Scope, the Zeiss Zielklein, and the Hensoldt Klein-Dialyt, with mountings like the Noske and the Griffin & Howe. These telescopes with these mountings are not strictly adjustable. It takes quite a time and quite a lot of work to get them properly adjusted for one ammunition at one range, and it is intended that thereafter they should be kept at this adjustment practically permanently. At first glance it would seem that these telescopes could be readily adjusted for various ranges by means of the reticule, which adjusts for elevation by means of the dial on top of the telescope; but in practice it has been found that this dial and screw adjustment of the reticule usually is more or less unreliable, that it develops looseness and lost motion, and that the only reliable way is to set it for one adjustment and then leave it there. Thus most sportsmen adjust these telescopes, when using a rifle taking the .30-06 cartridge, for one range. Let us say that they are using an ammunition which has a muzzle velocity of 2,700 f. s., with a trajectory height at 100 yards when shooting at 200 yards of 2 3/4 inches. They then adjust the telescope for 200 yards, so that the center of the 200-yard group will fall close to the exact spot at 200 yards on which the tip of the reticule is held. With this sighting the rifle should now shoot 2 3/4 inches high at 100 yards and 9 inches low at 300 yards. This is a very satisfactory adjustment for big-game shooting. It takes from one to three afternoons of trial and error work on the range to get the telescope thus accurately adjusted, so you can readily see that you can hardly hope to be able to use it with many types of ammunition. These telescopes and their mountings are undeniably lighter, simpler, and handier than the adjustable type. They are small and neat. The telescope and its mounting add about 14 ounces weight to the rifle, whereas the adjustable type of telescope and its mounting add about 1 1/2 pounds' weight. Once the telescope has been adjusted no special thought or knowledge is necessary for its use. For this reason it appeals especially to those who are essentially sportsmen and not, strictly speaking, riflemen—who use their rifles only for hunting big game, and for practically nothing else. They are fine, useful instruments in the hunting fields, either in thick woods or in open mountains, and greatly increase the efficiency of any big-game rifle.

From my own experience I should say

that there is practically no choice between the Noske, Zeiss, and Hensoldt telescopes; all of them are good. But the Zeiss and Hensoldt glasses are regularly equipped with a sharp-pointed, vertical-post reticule, and I have found that in target-shooting, and to a certain extent in game-shooting, as one aims the sharp point of the vertical picket tends to fade out, and that sometimes one aims with the tip of the point, and sometimes with the middle of the tip, the tip having faded out. As a consequence the shots string up and down on the target, and you do not get the accuracy you expect. Some have held that this does not occur in shooting at game. But as one sights his telescope in on a target to get it right for game-shooting I do not see how one can really get it satisfactorily adjusted for game with this sharp-pointed picket. Both Zeiss and Hensoldt will, on special order, equip their glasses with a special reticule having a flat-top post subtending about 4 to 5 minutes of angle (4 or 5 inches at 100 yards) and having a thin horizontal wire a short distance below the top of the post. A special order for such a telescope takes about eight weeks, and I think it is very desirable that both Zeiss and Hensoldt telescopes be equipped with this reticule.

The two mountings that are at present available for these telescopes are the Noske and the Griffin & Howe. Both adjust for windage only; elevation adjustment or rather zero is obtained in the reticule. They attach to the left side of the receiver by means of a dovetail, and hold the telescope central above the receiver. The movable base of the Noske mounting is retained fast on the dovetail by means of a screw with taper pin which projects for some distance to one side of the base. The windage adjustment is actuated by means of two screws which bind one against the other and force the movable base to one side or the other for windage adjustment. Sometimes these windage screws are provided with micrometer scales, which in practice mean nothing. In adjusting windage with this mounting you have to adjust the screws to what you think is about right, then screw one up against the other tightly with a pair of pliers, then shoot the rifle to see if the adjustment is right. It will not do to tighten up one screw against the other after adjustment because this would throw the adjustment all off. After a number of trials you finally get the windage adjustment right, and then, having tightened it up before you found it was right, you do not thereafter have to touch the screws and they stay put indefinitely. This matter of adjustment may take you one afternoon on the range, and it may take three, and it may require the expenditure of 50 or 100 rounds of ammunition at approximately 8 cents per round. This cost of ammunition for sighting in must be included in the cost of the mounting.

The action of the retaining screw which retains the movable base on the fixed dovetail base of the Noske mount is such that it forces the movable base up toward the top of the dovetail, so that it sometimes happens that the position of the movable base with respect to the fixed base is not always constant. In other words, the telescope does not go on the rifle every time in exactly the same adjustment. This is particularly true of the more recent mountings of Noske manufacture. The older type of mounting, of which I have one, had a longer dovetail than the more recent mountings, and with my own I have had no

fault to find. The telescope has been on and off the rifle innumerable times since it was originally sighted in over four years ago, and it still goes back in perfect adjustment. But I have had a number of complaints about the newer Noske mountings not going back on the rifle always in perfect adjustment. The head of the screw sticks out a little more than is desirable. Also the tube of the telescope is permanently fixed in the arms of the Noske mounting, and if the first adjustment as to the distance of the eyepiece from the eye should not prove correct it is almost impossible for the shooter himself to correct it.

All of these difficulties with the Noske mounting led to the bringing out of the Griffin & Howe mounting. This mounting is in appearance somewhat like the Noske; but the movable base is clamped to the fixed base dovetail, which binds one base to the other most securely by means of a split sleeve and cam, and also a pin which bites half into the fixed and half into the movable base, so that it seems to me that the going back of the fixed base into exactly the same position every time is more nearly assured on this type of mounting. The lever does not extend out so much to the side as the screw on the Noske mounting, and is thus not so liable to catch in brush. The telescope tube is clamped in the arms of the mounting in such a way that the tube can be shifted back and forth to assure just the desired eye relief in the various firing positions. The windage adjustment, instead of having two adjusting screws, has only one, which one can easily turn back and forth a small amount to adjust, and it seems to me that this mounting can be gotten in accurate windage adjustment in a very much shorter time and with a much less expenditure of ammunition than with the Noske mounting. I have one of these mounts myself, but have only just received it, so can not say positively to all this, but it is as it looks to me from an examination of the two mounts, and I rather think that for this non-adjustable type of telescope and mounting one would be wisest at present to obtain a Griffin & Howe mounting.

The shortcomings of the non-adjustable mounting are that, practically speaking, it is not possible to adjust it for more than one ammunition and one range. Also the adjustment is not absolutely positive, and also different lots of the same make and kind of ammunition sometimes differ slightly, so that it may be that sometimes the rifle is only approximately correct in its sight adjustment; that is, instead of shooting exactly where the telescope is aimed, it may shoot off 1, 2, or 3 inches in any direction, and the correction of this small error is hardly practical as it might take several hundred rounds to get it just right, and then with the next lot of ammunition bought it might be a little off again.

We now come to the adjustable type of hunting telescope and mounting. The only satisfactory one of this type is the Belding & Mull 3-power Hunting Scope, with T-H mounting and D-C adjusting screws. It weighs about 1½ pounds, and is much larger and bulkier than the non-adjustable outfits. No doubt you are more or less familiar with this outfit from the illustrations of it that have appeared in advertisements. The makers will send you descriptive circulars on request. It attaches to dovetails on the top of barrel and on top of bridge of receiver, slipping onto these dovetails from the rear, and

being secured thereto by three screws which should be screwed up to a uniform tightness with a coin. It takes approximately one minute to put the telescope on and take it off the rifle as compared with about ten seconds for the Noske mounting and about 5 seconds for the Griffin & Howe mounting. If pains be taken to screw up the screws each time with a uniform tension this telescope seems to go back on the rifle each time after removal in exact adjustment. The principal difference between it and the non-adjustable mountings described above is that the D-C adjusting screws adjust to half minutes of angle for both elevation and windage, and one can make a record of the exact adjustments and place the telescope in any desired adjustment afterwards in about three or four seconds; that is, you can adjust the striking point to ¼ inch at 100 yards, 1 inch at 200 yards, and so on. Thus in practice one places the telescope on the rifle the first time and lines the telescope up with the bore by means of the adjustable screws. Then he fires, say, two shots. Say, also, that these strike the target 8 inches high and 4 inches to the right. Now he simply screws the elevation screw in three graduations (supposing he is shooting at 200 yards) which equals 8 half minutes or 8 inches at 200 yards, and also screws in the windage screw 4 graduations, equaling 4 inches. He then fires a group of five shots for verification. Ten to one this group is exactly rightly located, and the rifle is sighted in for that range and that ammunition in about fifteen minutes with an expenditure of seven cartridges. He then records the adjustment of the screws, and any time thereafter he can set the sight accurately at this adjustment. In a similar way he can find the elevation and windage required for a number of different cartridges and ranges. Moreover, when he gets a new lot of ammunition it takes him but a few minutes to test it and see that his sight adjustment is absolutely correct for that new lot, and thus he can keep his rifle sighted in so that it will hit exactly where he aims.

With regard to the telescope itself, I find that the Belding & Mull 3-power Hunting Scope has a larger field than the three non-adjustable telescopes mentioned above, that it has a lot more magnifying power than a comparison of the advertised powers would indicate, and that the flat-top vertical-post reticule is so clearly cut that apparently I can aim with less error than with the other telescopes. Thus for me the Belding & Mull telescope seems to give quicker aim, slightly better vision, and slightly better accuracy than the other telescopes.

When the Remington Model 30 Express rifle first appeared I obtained one of these rifles with the regular factory stock and with Lyman No. 43 receiver sight. The rifle was of .25 Remington rimless caliber. I gave it a rather full test on the range, and this test was reported about a year ago in THE AMERICAN RIFLEMAN. The rifle shot very well, the accuracy was very fair, but not anything extra, and the weapon was a good one except that it was extremely difficult to aim steadily in any except the standing position, due to the shape and dimensions of the factory stock, and the shape of the factory butt plate made the recoil even with this light cartridge very unpleasant. I found the trigger pull very poor; but I corrected this as described in the Dope Bag Department of the September (1927) edition of this magazine. Then last spring, when Belding & Mull had arranged to have the Remington Arms Co. make the special stock for



them, I sent this rifle in and had it fitted with this stock and also with a Belding & Mull 3-power Hunting Scope with 2-H mountings and D-C adjusting screws. I sighted this rifle in at 100 yards, using .25 Remington factory ammunition with 117-grain Express Mushroom bullet, so that the center of impact fell  $2\frac{1}{2}$  inches above where the point of the vertical post of the reticule was held on the target. With this sighting the rifle shot 1 inch above point of aim at 50 yards, exactly at point of aim at 150 yards, and about  $5\frac{1}{2}$  inches low at 200 yards. At 100 yards the above ammunition made on an average of  $1\frac{1}{4}$ -inch groups for ten consecutive shots. No groups were as large as 2 inches. This is most remarkable accuracy, and is very much better than I could get from the same rifle and ammunition using the Lyman sights.

I used this rifle last summer on my vacation. It was closed season, so I did not have a chance to try it on large game; but I did use it a lot on small game, including woodchuck, and it was exceedingly satisfactory. In fact, it was far superior in every way to any other rifle I have ever carried in the woods. I carried it for seven days still hunting white-tail deer without ammunition in the very thick woods country of northern Maine. At no time did the rifle seem heavy, and I had no trouble at all with the various projecting screws of the mounting catching in brush. In fact, it was as easy to carry as any rifle I have ever used in hunting. I probably snapped it on thirty deer during this hunting, under all conditions. It was excellently adapted to such shooting. It has been my experience that usually about half the deer one jumps in thick woods get behind a tree or brush so quickly that one does not have time to even aim on them. All one sees is the white flag, and a pair of legs, and they are gone. But with the empty rifle I of course snapped on a lot of deer which I should probably have not fired at at all had I had a loaded rifle because I would not think that I could possibly have hit them. In almost all these cases, however, when I did snap on them I saw the deer through the telescope well centered; and I think that with this rifle I should have gotten a majority of these deer. As a consequence I have gained the impression that this telescope is a much better sight, even for quick snap-shooting in thick brush, than any iron sight I have ever used. I know positively that on small game I made a great many shots with it that would have been absolutely impossible with any iron sights. The whole outfit was extremely satisfactory.

Since then I have continued to use this little Remington rifle, and am more and more pleased with it all the time. I have developed a load consisting of the 87-grain Savage full-jacketed, pointed bullet and 12 grains of du Pont No. 80 powder. This load is suited to squirrels and grouse and such game, and is as accurate as the other load. Moreover, with the telescope adjusted exactly as described above for the heavy load, this light load hits at exactly the point of aim at both 50 and 100 yards. In other words, with sights adjusted for the heavy load, and with the heavy load in the rifle, all one has to do if he wishes to shoot at very small game is to change to the light load and then aim exactly where he wants to hit at any range at which small game can be profitably shot at. I do not know of another more all-around rifle. I personally favor this outfit rather than the non-adjustable form of telescope sight because I like to use small-game

loads as well as full-charged loads in my rifle; but from the practical point of view of use on large game only I do not think that this outfit is any more effective on large game than a rifle equipped with the non-adjustable telescope sight as previously described. It seems to me to depend entirely upon whether one is essentially a rifleman or essentially a hunter of big game only. If the former, he will prefer the Belding & Mull outfit; if the latter, the non-adjustable telescope will usually be preferred.

With regard to the remark that I thought that the Winchester Model 54 rifle was more accurate than the Remington Model 30 rifle, the former being of .270 caliber and the latter of .25 caliber. This was based entirely on my experience with both rifles, using iron sights only. I have shot four .270 Winchester rifles, two of which I own. All were sighted with Lyman No. 48 sights. I have found all four to be extremely accurate—in fact, as accurate as any .30-06 rifle I have ever shot so far as could be told with iron sights. I do not believe that the accuracy of the .270 rifle has been fully appreciated. The Winchester, by reason of slightly longer barrel, slightly better placed sights, slightly greater weight, lends itself to accurate work a little better than the Remington. I am inclined to think that the Winchester would be a most remarkable arm with proper stock and proper telescope sight.

This letter has taken several days in its writing. In the interim I have had a chance to do some shooting with a rifle equipped with a telescope sight having the new Griffin & Howe mounting. I found that this mounting was very much easier adjusted than the Noske mounting, and that I was easily able to get the rifle approximately correctly sighted in in about ten shots, and got it just exactly right in thirty shots. The mounting appeals to one as much simpler than the Noske mount, and much easier and quicker put on the rifle and taken off.

P. S.—Since the above letter was written I find that there has been a slight change in the two Hensoldt telescope sights in which we are most interested, which has resulted in a corresponding slight change in the trade name. Also that both of these telescopes can now be had from stock from the importers in this county equipped with the flat top post reticule, which is known as the No. 2 reticule. The two Hensoldt telescope sights in question are:

The Hensoldt-Zielklein 2½-power Telescope.—This is the small telescope with uniform diameter tube, described some months ago in *THE AMERICAN RIFLEMAN* by Mr. N. H. Roberts as the "Hensoldt-Klein-Dialyt 2½-power Telescope Sight." It has a field of view at 100 yards of 24 feet, and a relative brightness of 40. Weight 8 ounces.

The Hensoldt-Zielyt 2½-power Telescope.—This is quite similar in size to the foregoing telescope, but the eyepiece is slightly enlarged, so that the relative brightness is 45 and the field of view at 100 yards is 40.5 feet; weight 9 ounces. This telescope is quite similar to the older Hensoldt-Wetzlar 2½-power glass with which most of our riflemen are familiar.

It seems to me that the Zielyt telescope is generally the preferable one, as it gives a much larger field of view and has a larger exit pupil, both very considerable advantages in snap shooting, or in shooting at running game or in rapid fire. At the same time the Zielklein telescope, by reason of its slightly smaller eyepiece, can be mounted lower on the rifle without inter-

ference by the bolt handle, and weighs one ounce less. It therefore might be more desirable on certain rifles which were to be used almost entirely in the prone position. Either telescope should always be ordered with the No. 2 flat top post reticule.—T. W.

#### TAIT RIFLE STOCKS

I HAVE recently obtained a National Match Springfield and a Krag rifle, and I want to have them both restocked for hunting. I want a fine stock on my Springfield, but the Krag I want made into a knockabout rifle. I could remodel the factory stock on the Krag perhaps; but I do like a well-shaped pistol grip. I also want to have the Lyman rear sight fitted to both rifles. I have been given the name of a Mr. R. D. Tait, of Dunsmuir, in this State, as being a man who can do this work, but before I write to him I thought I had better drop you a line to ask if you think that he can make good stocks and otherwise do the necessary work, and also if you think he can turn me out a Krag stock like I want that will be good for rough work, but that won't cost too much.—J. D. F.

Answer (by Colonel Whelen). I have been familiar with the work of Mr. R. D. Tait, of Dunsmuir, for some years. He started in making what might be called a cheaper grade of stock for any of our military rifles. These stocks were really fine. They were inlet by machinery, and one could send for a stock and fit it himself to his rifle. For all purposes they were as good a stock as any man needs, well made and well shaped. He has always been a very conscientious worker, and his workmanship, from the stocks I have seen, has constantly improved, so that today he is making as good stocks as anyone in this country. I am not alone in this opinion. I have received many letters from riflemen for whom he has done splendid work, and you will make no mistake in placing your order with him. He is also capable of doing all the metalwork necessary, including fitting sights, bands, front-sight bases, etc. He can, also, I think, turn you out just what you want in the shape of a knockabout stock for your Krag, as he makes a speciality of Krag stocks.

#### GUN SHOULD SHOOT HIGH FOR BIRDS

I RECENTLY purchased a 20-gauge Remington pump gun, 28-inch barrels, modified choke. Upon targeting the gun I was surprised to find the entire charge of shot above the line of sight. Can this be corrected in any way through pitch? This gun has no pitch, and while I haven't tried the gun on game, I don't think I would want a gun shooting as high as this one. There were a number of pellets that went over the top of the target.—C. D. W.

Answer (by Captain Askins). The kind of gun you have in that Remington would just suit me for wing shooting. Unless my guns shoot high when targeted they shoot low when aiming at a flying bird. Better try yours on game to see if the same thing is not true with you. The necessity for always keeping a bird in plain sight and not covering him up necessitates a high-shooting barrel.

If on trail of game you still wish the gun to shoot lower, go to a gunsmith and have him solder a rib 2 inches long on top of the barrel where the front sight is. The rib must be rounded off to snugly fit the barrel, but may be made of soft steel or iron. On top of this rib place your front sight. That will lower your center of impact.



### CONCERNING BULLETS AND LOADS FOR THE .38-40 REVOLVER

I HAVE a never-ceasing admiration for the men who handle columns like yours in this and similar magazines. The "sang froid" with which all questions pertaining to pistols and revolvers are handled is a delight; in fact it is almost too good to be really true. The readers of this column shoot a variety of guns and inquire about a great variety of loads, and they expect an expert judgment on all of them. If a man could answer all questions on even one caliber he would be a wizard.

I shoot a .38-40 revolver a good deal. Have shot and reloaded for nearly ten years, and in that time I have tried a variety of loads and combinations, but even now I would be slow to pose as an expert on this particular cartridge. Just now I am up against a problem that drives me to your column for advice.

I have used several bullets in the loading of the .38-40 case: the 130-grain hollow-point, the regular 180-grain metal-jacket, but mainly the standard 180-grain cast lead bullet cast in a Bond double-cavity mold and sized and lubricated in an Ideal sizer. This bullet is very satisfactory from the standpoint of accuracy, but it is rather light and lacks that theoretical maximum shocking power which we all so eagerly seek in a revolver cartridge and which so few of us actually use or require. A round-nosed bullet weighing a trifle more would fulfill these theoretical requirements better. It came to my notice that a company was making molds for exactly this bullet, weighing 185 grains in hard alloy and over 190 grains in one-to-twenty alloy, having a round nose and being up to date in every respect. In their catalogue this bullet lists as No. 403185 (Belding & Mull.) They supply these bullets to the shooter cast, lubricated and sized, ready for use. I thought that before buying a mold I would like to try this bullet and so sent for a hundred. They came and looked to be all the makers claimed for them. I at once loaded some in properly sized .38-40 cases. My first shock came when I tried to load them into my revolver. The cartridges wouldn't go in. I had three cylinders of old and recent manufacture and the result was the same in all. They simply would not go in. Well, I had an ideal sizer at my elbow, so I thought I would see what sizing would do to them. They went into the sizing die hard, just as you would expect when sizing a bullet of 403 caliber down to 400. These doubly-sized bullets were loaded into some more cases and went into the cylinder O. K. However, I wasn't entirely tranquil. The thought of what would have happened if I had been able to chamber and shoot one of these oversized bullets made me pensive. I took my cylinder out of the gun and dropped one of these doubly-sized bullets into it from the breech end. It took a lot of force on a plunger to force it through, a lot of force, and that is after it had been passed through the Ideal sizer and was presumably .400-1000 caliber. The Bond 180-grain bullet went through easily, just a comfortable snug fit.

Now what I want to know is this: What is the idea of sending out any such bullets in the first place? It is idle to speculate on what would happen if they were shot, for you can't shoot them in a .38-40 revolver. What they would do in a rifle of this caliber I can't say, but as they came to me sized and lubricated one would be justified in assuming that they were suitable for loading and shooting in any .38-40 weapon. Just what will these bullets do after sizing to .400-1000? They are a de-

cidedly tight fit for the cylinders and I hesitate to start them off with my customary load of 14 grains of No. 80.

What I want is some expert advice, not from someone whose knowledge of ballistics is limited to the ballistic properties of the Remington typewriter, but from one who has been there. Personally I am not going to experiment. For one thing I have had my Colt Single Action a long time and it has become a household pet; for another thing, I have only two hands and need them both in my business. But I would greatly appreciate it if you would focus your attention on this problem and answer it for me with the effortless ease (from auto ads) with which I notice you dispose of all similar queries.—E. W. P.

Answer (by Major Hatcher). You are right about the difficulty of answering all the questions that come in to these columns of this magazine. The hardest part about answering questions is that frequently the data given is insufficient for us to base an answer on it.

For example, I recently received a letter from a man who said, "I have an old revolver and can not find cartridges to fit it. What kind of cartridges should I get?"

It is like trying to prescribe for a patient by mail, who only tells you he is sick and wants to know what is the matter and what kind of medicine to take.

In regard to your own inquiry, your question is hard to answer offhand, because I want to refer it to the makers of the bullet and see what they say.

The standard diameter of the .38-40 cylinder at the front end is .402. In this case the bullets should go through properly if sized down to .400. Do you know what size the bullets actually were when they came out of the sizing die?

I referred your inquiry to the makers of the bullet, as I mentioned above, but in the meantime I would like to state that I made a test, some time ago, to see what the effect would be of firing a bullet that was oversize. I got some Bond .45-caliber for the automatic pistol. The bullets, after lubricating and sizing, were .4553 in diameter, and gave a pressure of 10,526 pounds and a velocity of 729 feet, using five grains of pistol powder No. 5.

Using the same bullet not resized at all, whose diameter was .458, and the same charge of powder, I got a velocity of 707 feet and a pressure of 10,886 pounds.

This shows that, in the automatic pistol at least and with this particular charge of powder, the difference of several thousandths in diameter does not seem to make any difference.

I will write you further when I hear from the company.

### SECOND LETTER

I refer again to my recent answer to your letter of September 9.

I took this question of the size of the .38-40 revolver bullet up with Belding & Mull themselves. Belding & Mull state:

"While it is entirely possible that we are casting or sizing these No. 403185 bullets too large for revolver use we have never experienced this difficulty in our own shooting. This bullet is cast fully .404 inch and our present .402 inch Ideal die leaves the sized diameter almost .403 inch. In my own Single Action Colt Revolver, I have been using the bullet referred to above for gallery target practice with three grains Bull's-eye and the No. 1½ Remington primer. I found these loads satisfactorily accurate from the 25-yard range and while it was a mild load the chamber-fitting conditions were similar and I had no trouble on that score.

"Also these bullets, sized in the same die as those furnished Dr. Paine, were submitted in large quantities to the du Pont Laboratories for test in the .38-40 Colt revolver. The Brandywine Laboratory used 8.5 grains of Pistol No. 5, developing 1,006 f. s., and 9.2 grains developing 1,043 f. s.; also 14 grains No. 80 developing 1,014 f. s. and 15 grains developing 1,090 f. s. The pressures were apparently safe enough as were other conditions since the du Pont people recommend these loads with this bullet when it is seated out to a total over-all cartridge length of 1¼ inches. They experienced no trouble in feeding these cartridges in the chamber of the revolver they used in the test. However, they found that due to seating this bullet out to the over-all length indicated, the crimping canelure came beyond the mouth of the shell and they were unable to crimp the shell mouth on the bands because the shell in this case naturally bulged too much to permit entrance in the chamber.

"It would seem after reading Dr. Paine's letter that some of these revolvers are not chambered with as great tolerance as others, and it might be advisable to use a smaller sizing die to meet this possible condition.

"Accordingly we are supplanting our old .402-inch die with a new one to size .401 inch diameter."

I hope, Doctor, that this explanation by Belding & Mull will give you what you want.

### SELECTING A SECOND SHOTGUN

I AM thinking of getting a new shotgun, but can not decide on what to get, a 16-gauge or a 20-gauge. I have decided on a G. H. grade, Parker. I have never used a 20-gauge. I want to use this gun for upland shooting. I have an 8-pound old Lefever, G grade, so I can get along with a lighter gun, but I want it chambered for the heavy loads such as Western Super-X. I like the balance of the Parker gun the best of any American-made shotgun.—T. J. B.

Answer (by Captain Askins). If you are used to a 12 you will find the change to a 20 rather radical. Get a 16-gauge, 28-inch barrels, weight 6½ pounds, not bored too close, and use the heavy progressive powder loads when you need them.

Parker is a good, honest gun all right.

### REBARRELING THE Krag

CAN you inform me of any source where as a N. R. A. member I can purchase a barrel, unchambered, for a Krag rifle and be sure that it is of correct bore—say from .308 to .3085; or is there any stock barrel that could be adapted to fit the Krag receiver available for purchase at a price within reason in view of present value of these obsolete arms? It would seem foolish to buy a Niedner barrel for this reason. I want to use my 22-inch cut-down Krag with pointed bullets for rough saddle work; but it happens to have an oversize bore and a bad chamber. We have several excellent gunsmiths here who can chamber a barrel for me.—L. F. R.

Answer (by Colonel Whelen). There are no new barrels regularly made for the Krag rifle. However, I think that if you are a member of the N. R. A. you can purchase through the D. C. M. a barrel for the Springfield rifle. I would suggest the barrel listed in the price list as "Barrel, .30-caliber, same outside dimensions as .22-caliber barrel, without rear sight base, polished and blued, star-gauged, price \$10.40, packing charge 50 cents." You can then

send this barrel to your gunsmith. He can cut it off so as to eliminate the threads at the breech, making it about  $\frac{3}{4}$ -inch shorter, and rethread it for the Krag action, and then rechamber it. I think that this ought to result in a very excellent barrel.

It does seem at first glance that it is rather extravagant to place a \$30 Niedner barrel on a Krag rifle that one paid only \$1.50 for; but as a matter of fact that price on the Krag has been made solely to place a first-class rifle in the hands of members of the N. R. A. at the cheapest possible cost to encourage marksmanship. It is not to be regarded as any measure of the real value of the gun.

#### COLT NEW SERVICE AND .45 A. C. P. CARTRIDGES

I INTEND buying a Colt New Service target revolver, provided I can have the barrel remodeled to take the .45 auto. cartridge.

I am in the Army, where it pays to own a weapon shooting Government ammunition. I understand a barrel shooting the auto. cartridge must have a ramp or flange effect at breech.

Please let me know if this revolver can be remodeled to take the .45 auto. cartridge, and if so, who could do it for me and at approximately what cost.—J. J. O.

Answer (by Major Hatcher). The .45 New Service Target Gun has a barrel which is satisfactory for the .45 Automatic cartridge, but the cylinder will not fit it. To change the gun you would have to have a new cylinder with ejector assembly, and a new side plate, and the cylinder would have to be fitted to the crane, and the side plate would have to be fitted to the gun.

The reason for the new side plate is that in using the automatic pistol cartridge there is a steel clip which goes under the head of the cartridge, which takes up a considerable amount of space. This means there is more space between the back end of the cylinder and the frame of the gun on weapons designed to shoot the automatic pistol cartridge.

The cylinder is held in place and kept from coming off the crane when it is swung out for loading, by the lug on the left-hand side of the gun on the side plate, and with the shorter cylinder used for the automatic cartridge, this lug must be farther forward, which necessitates a new side plate.

I would suggest that you get either a Colt or Smith & Wesson, Model 1917, which is already fitted to shoot the automatic cartridge, or else see if you can not have Colt make up a New Service target for you specially fitted for this .45 cartridge.

#### EXPANDING BULLETS FOR .38 COLT AUTOMATIC

I DO A great deal of traveling around in the hills—timber cruising, prospecting, etc.—and my best friend is always a Colt .38-caliber automatic pistol with a gold bead sight and  $\frac{1}{2}$ -inch barrel. I have killed all kinds of game from squirrels to cougar and black bear with it, but am always afraid of a jam with the soft-point bullets.

Do you know of any way for me to obtain the open or hollow points for this cartridge? How would the 9-mm. Luger bullet with hollow-point work in the .38 shell? Or could I drill the full metal-cased cartridge to get the hollow-point shock effect?—F. C. M.

Answer (by Major Hatcher). The 9-mm. Luger bullet is the same size in diameter as the .38 Colt automatic and is slightly lighter. There is no reason why you could not use it as you suggest, except that it might not feed well through the magazine. I have not tried it in the .38 magazine and do not know whether or not you will experience trouble.

I would suggest that the best way to do is to drill your soft-point .38 bullets with a hole about  $\frac{3}{32}$  inch in diameter and about  $\frac{3}{16}$  inch deep.

It is not a very good idea to drill the full metal-cased bullets, because, in the first place, there is not enough speed in the automatic to make the bullet mushroom even with the hollow point, by reason of the restraining effect of the metal jacket.

Another reason is, because there is a difference of construction between the full metal-jacketed bullet and the soft point. In the metal-jacketed bullet the point is covered with the jacket and the base of the bullet is open. If you open the jacket at the front end there is danger of the lead blowing clear through and leaving the jacket in the barrel to cause an accident when the next shot is fired.

On the other hand, with the soft-point bullet the jacket is closed at the base and there is no danger of this happening.

#### PROPER BORING IN 20-GAUGE FOR GROUSE

I WOULD like to have a little advice about 20-gauge shotgun with 26-inch barrels. The bore of this gun is modified and full choke. I use this gun for grouse shooting in brush and I think it shoots a little too close. Was thinking of sending the barrels to factory and having them rebored to cylinder bore and modified choke.

I use the 3-inch shell, extra heavy load for 20-gauge 1-ounce shot, Western Super-X ammunition.

What should the pattern of this gun be with this bore, and what should the pattern be if I have it rebored, say, from 30 or 35 yards?

What is the accurate way to measure one's self for the length of stock?—B. S. G.

Answer (by Captain Askins). Yes; gun shoots pretty close for grouse. Have the first barrel rebored, not to plain cylinder but to improved cylinder, and the second barrel modified.

The improved cylinder will shoot 45 per cent of the charge in a 30-inch circle at 40 yards or in a 24-inch circle at 35 yards. The modified choke will shoot 60 per cent, same distances. The full choke should shoot 70 per cent or about 280 No. 8 shot, load being 400.

There's no accurate way of measuring a stock, except some people place the butt in the hollow of elbow and want the stock just long enough so that the trigger finger nicely reaches the front trigger—that is, for length. For drop, the variation need not run greater than from 2% to 2½, which are common drops in stock guns. Some have greater drop, but it is not needed.

#### NUMBER 80 POWDER IN REVOLVERS

FOR several years I have done considerable shooting with .38 Special and .44 Special S. & W. revolvers, loading my own ammunition, first using R. S. Q., then du Pont No. 3, and finally No. 5 pistol powder ever since it was brought out.

Like many other revolver bugs I like to get all reasonably possible out of the guns,

so of late have been studying the tables of du Pont S. R. P. No. 80. The velocities, and consequent energies, look very alluring but rather extreme judged by all former standards.

May I ask what your frank opinion is of this powder in revolvers? So far I haven't tried it, for the discrepancies of loads seem so very apparent. Take, for example, the .44 Special .44-40 Colt, and .45 Colt. In the .44 Special 15 grains No. 80 powder drives the 246-grain bullet 1,075 f. s., while a slightly heavier charge (15.3 grains) gives only 918 f. s. to the 200-grain bullet in the .44-40. The big 250-grain bullet of the .45 Colt with 15 grains of this powder has a maximum velocity of 925 f. s. Why the difference?

Perhaps one of the most glaring discrepancies, seemingly at least, is between the .32 S. & W. long and .32-20 Colt. The former requires only 6.5 grains No. 80 to drive the 98-grain bullet 1,070 f. s., while a 32 per cent heavier charge (8.6 grains) gives the 100-grain bullet of the .32-20 only 980 f. s.

As a mere guesser it seems to me it must be a matter of powder space; but if that is true wouldn't the extreme velocities with small shells, like the .32 S. & W. long, give dangerous pressures?

In almost all cases I use factory bullets of U. M. C. make. In your opinion are these bullets with their slightly concave bases too soft to be safe at extreme velocities as given with No. 80 powder?—H. J. M.

Answer (by Major Hatcher). Your letter of June 5 in which you ask a number of questions about apparent discrepancies in velocity, was referred to the E. I. du Pont de Nemours & Co. before answering, and I trust that you will excuse the resultant delay.

Du Pont Powder No. 80 is very good indeed for the large revolver cartridges, such as the .44-40 and .38-40.

I have the following information from the du Pont company on this subject:

The former recommended charge of 15 grains in the .44 Special, developing 1,074 f. s. with 246-grain bullet has now been reduced to 11 grains in the du Pont new bulletin, giving a velocity of 906 f. s. The pressure on the old load was safe, but the recoil was somewhat excessive, which is the reason for the reduction.

On the other hand, in the .44-40 Colt a load of 15.3 grains is proportionately a much smaller load, owing to the increased powder space in the cartridge case. The maximum load recommended in this cartridge by du Pont is 19 grains of powder with a 200-grain bullet, developing 1,120 f. s.

In the case of the .45 Colt with a 250-grain bullet, the maximum recommended charge is 15 grains, owing to the fact that the recoil gets too heavy when it goes beyond this point.

In the .32 Smith & Wesson Long and the .32-20, a somewhat similar condition exists. Because the powder space is so much bigger in the .32-20, it requires more powder to drive the bullet the same velocity. In the new du Pont pamphlet, the recommended maximum charge for the 100-grain bullet in the .32-20 will be 11 grains giving 1,035 f. s.

All of these recommendations of du Pont are based on careful test and every precaution is taken to recommend charges that will give safe pressures under the various loading conditions that will be encountered by reloading by amateurs.



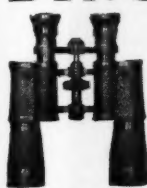
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## SOME DOPE ON THE OLD PERCUSSION REVOLVERS

IT MAY interest you to have data on the bullet sizes of some of the old percussion revolvers, so have taken some pains to offer them to you.

The outside diameter of the grooves in the .31 caliber is .3125. The bullet diameter can be safely assumed as .305. They seem to have cut all grooves to a depth of .00375 in all calibers.

The outside diameter of grooves in the 36 (Navy) is .3825, and the bored size is .375; bullet size is .375.

As to the 44 (Army) the sizes are .4575, and their moulds cast a bullet that is .460. For some reason, they do not depend so much on the expansion of the lead in this case.

All-round bullets are cast about the same size as the conical ones, and they make about as round a cast as it is possible to obtain in such a manner.

Finally, any of those old revolvers, if in good shape and properly loaded, will shoot fully as well as the very best of the late types. The last one I tried was to see just what ammunition loaded in 1862 would do. The grease on the bullets was practically valueless, if not worse. At 50 yards three shots could be fired accurately. Just as much so as a .38 S. & W. Special that I alternated with—I think slightly more so—although I attribute that to the "hang" of the Navy shape. The old Freeman Army is the only one I have ever met with that seemed better.

As to power the ancient powder paid no attention to a 2-inch hemlock plank at the distance mentioned.

I finally shot at a sound hemlock knot of about the size of a silver dollar and it was taken out bodily. A hemlock knot is a tough piece of wood—a thing that always causes profanity by taking the edge off of the buzzsaw.—P. L. J.

Answer (by Major Hatcher). I have your letter of June 28, and thank you very much indeed for your very interesting letter which gives valuable information as to the old-style percussion revolvers.

The next time I go to Pittsburgh I shall certainly look you up.

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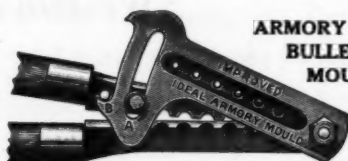
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WOULD you kindly advise me by how much a Browning 12-gauge is better than a 16-gauge auto. shotgun as to killing and pattern? Will a 16-gauge Browning with 26-inch barrel shoot as far and with as good a pattern as one with a 28-inch barrel?—R. E. B.

Answer (by Captain Askins). I think there would be no practical difference in the range of a Browning 16-gauge with 26- or with 28-inch barrels, both being bored alike.

The 12-gauge will have about 5 yards the advantage of the 16, using an ounce and a quarter of shot in the 12, with progressive powder.



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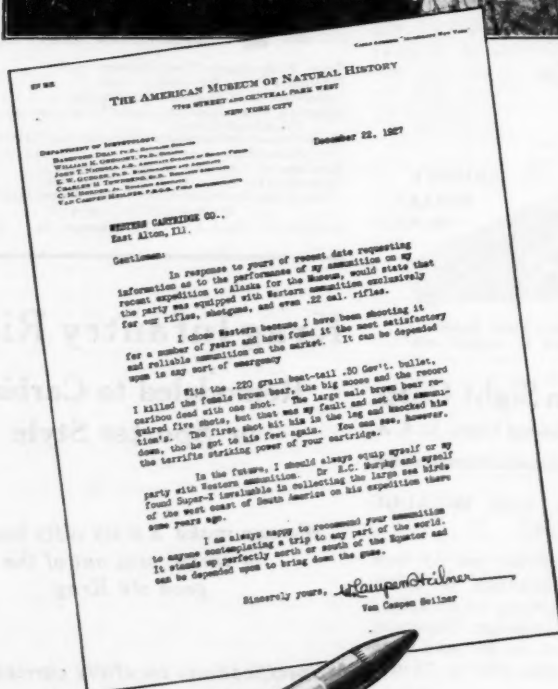
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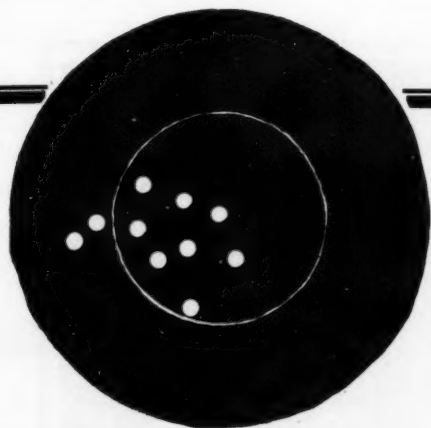
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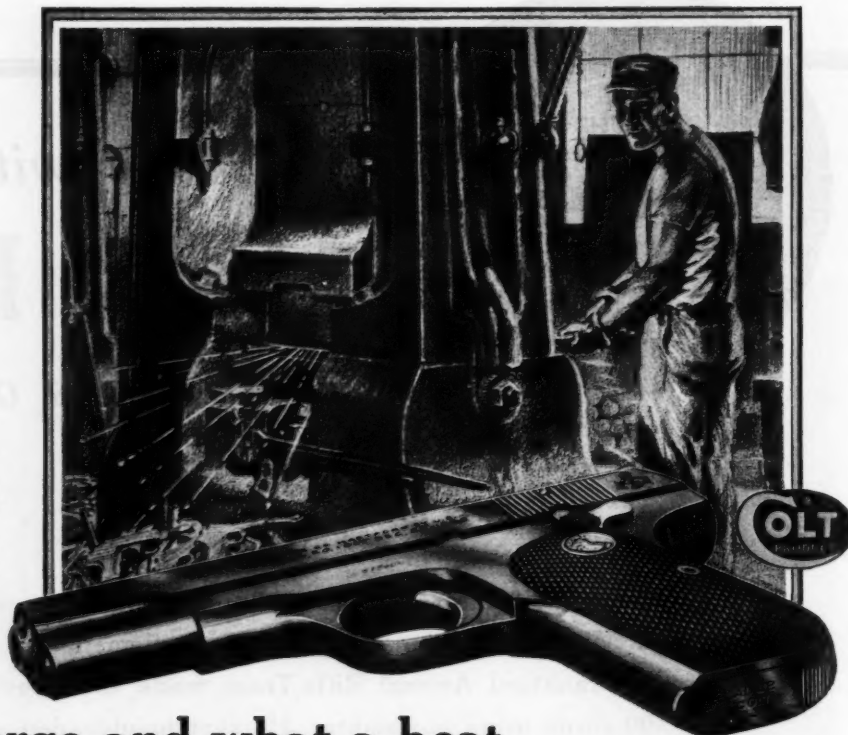
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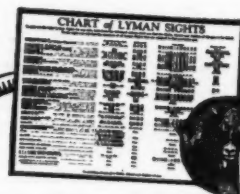
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**WANTED**—Powder scales. Must be priced right. All letters answered. W. C. Burnett, Box 885, Corpus Christi, Tex. 2-28

**WANTED**—American Firearms manufactured before 1876. Mail post card for illustrated want list. S. Harold Croft, Bala-Cynwyd, Pa. 12-28

**PANETELA CIGARS**—\$2 per 100 prepaid direct to consumer.—Somerset Cigar Co., Barnesville, Ohio. 2-28

**CANADA TAX SALE**—Buy these bargains by mail. Pay in monthly payments, \$5 or \$10. \$49.50 for 2 acres lake front; \$63 for 25 acres on road; \$180 for 100 acres with creek; \$112.50 for 1,000 yards river frontage; \$450 for 300 acres game preserve; \$67.50 for 5 acres on Georgian Bay; \$171 for 75 acres ocean front. These are a few items taken at random from our new twenty-page illustrated booklet of Canadian properties seized and sold for taxes, which is free for the asking. Amount given above is the full price; no mortgage, no further payments. Beautifully situated hunting camps and fishing lodges where there is real hunting and fishing, summer cottage sites, islands, heavily wooded acreages situated in Muskoka, Highlands of Ontario, and the New North. Also farms in Old Ontario, Quebec, the Prairie provinces and British Columbia. You couldn't buy these for ten times the price in the ordinary way. Now is the time to invest in Canada's future—minerals, forest and farms. Don't delay. Send no money, but send for the booklet today so you will have first choice. Full particulars. Tax Sale Service, 72 Queen St., W., Room 615, Toronto 2, Canada. 2-28

**MAUSER RIFLES**—Genuine Mauser Waffenfabrick Oberndorf, brand new 7-mm. Sporter, set trigger, selected stocks, ammunition made by Western, \$35. Over-and-under trap gun, ventilated rib with ejector, slightly used, \$175; same without ejector, \$155. Sent for inspection. Frederick W. Hollender, 1157 Morris Ave., New York City. 2-28

**SALE**—F. A. resizing dies, .45-70, \$135 each; .45 Colt revolver, \$1.25 each; .30-caliber neck-resizing dies, 65 cents each. F. A. .30-caliber, 5-ball (round) moulds, \$2.25 each; .44 Remington C. & B. revolvers, \$8.50 each; .30 Krag Ideal loading press, new, few extras, \$18; F. A. .30 Krag priming press, \$7; Army bullet moulds, C. & B. revolvers, cylinders, nipples, spare parts. B. K. Wingate, Box 481, Reading, Pa. 2-28

**SELL**—Remington caliber-.35 auto rifle, never shot, oil finish, gun-crank condition. \$30. E. A. Franks, Silver Lake, Ind. 2-28

**FOR SALE**—22-caliber Crossman air rifle and pellets, in fine condition, \$10. Henry F. Meisinger, Jr., 2308 S. Austin Blvd., Cicero, Ill. 2-28

**FOR SALE**—Ballard .22 relined, 24-inch octagon barrel, single trigger, nickel-plated frame, butt plate and lever, weight 7 pounds, very accurate. I have kept 25 successive shots behind a dime at 25 yards. Barrel spotless, \$25. Ballard .22 double-set, barrel of no value, action tight and sound, \$20. Ballard .32 rim-fire single trigger, barrel rusty, but shoots fairly well, \$12.50. Plain Ballard stock, good condition, butt plate, \$5. Stevens 6-power scope; length, 20 inches. Winchester mounts \$15 with mounts, \$10 without. One assayer's scale, cost new \$75, want \$25. 1 Vickers front sight, 75 cents. Marble auxiliary cartridge holder for 250-3,000, \$1. **WANT**—"Rifle-Shooting" by Dr. Hudson, A. Wilcox, Sec., Modesto Rifle Club, Box 365, Modesto, Calif. 2-28

**WANT**—33-caliber Winchester, solid frame. C. F. Gates, 415 Liberty St., Franklin, Pa. 2-28

**SELL**—TRADE—S. & W. perfected target pistol, little holster worn, good inside, accurate; make an offer. **WANT**—Winchester .52 Colt or S. & W. six-shooter .22. Raymond Long, Assembly Place, Dixon, Ill. 2-28

**WANT**—500 S. & W. .44 Russian gallery cartridges or empties; ivory, pearl or stag grips for .45 Colt frontier and auto. L. J. Morgan, 1428 Lunt Ave., Chicago, Ill. 2-28

**WANTED**—Mauser Military Automatic Pistol. Mould and tools. Also 45 S. A. Colt, 7 1/4-inch barrel. M. D. Meiser, 687 W. Lexington Ave., Elkhart, Ind. 2-28

**FOR SALE**—One 1-A Eastman Kodak, special F. 4.5 lens with case, \$52. O. B. Palmer, 315 E. Cedar St., Missoula, Mont. 2-28

**TRADE**—Walnut slab, 5-foot. **WANT**—30-caliber loading tools, Model 17 revolver. G. Friebel, R. 1, Elvira, Ohio. 2-28

**WANTED**—Peterson Ballards, Peterson Winchester, Niedner Winchester, Niedner Ballard, Springfield .22's. Must be in crank shape and reasonable for cash. Clarence Marsh, Orlando, Fla. 2-28

**SELL**—New Winchester .270, receiver sight, \$35. New Niedner 7-mm. barrel for Springfield, \$15. Krag carbine, loads from top, box removed, peep sight, \$15. 300 Savage cases. **WANT**—7-mm. shell resized and bullets; Colt P. P. special. Harold Peterson, East Providence, R. I. 2-28

**WANT**—Small-caliber rifle, must be accurate and cheap; also .25 special Krag barrel. John Amaden, Pioche, Nev. 2-28

**FOR SALE**—Winchester 12-gauge pump, matted rib, cost \$63, used one season, \$40. Rare flintlock and percussion pistols, price and description on request. **WANT**—Fecker scope and mounts, and cork-ball palm rest. Carl W. Wahrer, Physicians Bldg., Sacramento, Calif. 2-28

**WILL EXCHANGE**—New Remington 12 pump for good-grade .410 double hammerless. Have many others for exchange. Martin J. Carlson, Barry, Minn. 2-28

**SELL**—Stevens .12-30 hammerless single, good condition, \$5. Two auxiliary cartridges, .30-'06. **WANT**—Good powder scale. Oscar Myklejord, Foston, Minn. 2-28

**SELL**—Two Winchester single-shot rifles, .32-40 and .45-70, excellent condition, \$15 each. Lot of .20 (no Colts) early cartridges and some percussion revolvers and pistols, \$75. Single, \$2 to \$10. Send stamp for list. R. Wiprecht, 630 Third Ave., Salt Lake City, Utah. 2-28

**TRADE**—25 Remington express, shot 150 times, \$35; or Springfield sporter or national-match rifle. Lester Anderson, Olney, Mont. 2-28

**TRADE**—4-inch dial liquid compass, 4 magnetic needles, jeweled bearings, solid mahogany case, new, for .38-44-caliber revolver with or without loading tools. Best offer. Geo. Abram, 11619 Belleterre Ave., Detroit, Mich. 2-28

**FOR SALE**—About 275 duplicates, antique pistols, revolvers and long guns; one copy "Simoon North, First Official Pistol Maker." \$10. Send stamp for list. Wm. F. Smith, 5403 North Fifth St., Philadelphia, Pa. 2-28

**TRADE**—30 Newton rifle, new condition, for new Reising automatic. Good telescope; or make offer. B. R. Julian, Omak, Wash. 2-28



**FOR SALE**—National-Match Springfield, Model 1922 stock, Lyman 48 rear and 17 front sights, good, \$30. .52 Winchester, has stock made over by Griffin & Howe, \$25. Fairbanks No. 3054 scales, \$12. B. & M. reloading tool with complete parts for loading the following: .30-06, .30-40, .25-35, \$13. Winchester 5A scope, \$25. 8 x 24 Hensoldt Prism Binoculars, \$22. Edwin W. Etnier, 1709 Monroe St., Endicott, N. Y. 2-28

**SELL**—12-gauge Remington, Model 10D; 20-gauge Marlin; 45-70 Remington-Lee repeater; Graflex and 8-power binoculars. Lederman, 1436 E. 13th St., Brooklyn, N. Y. 2-28

**FACTORY-LOADED CARTRIDGES**—45-70, 500 Winchester, \$2 per 100. .44-40 Winchester, black, \$1.25 per 100. .44-40 Winchester, smokeless, metal-cased, \$1.50 per 100. .32 Long Colts, black, \$1 per 100. .44 Game Getter, smokeless, round ball, \$1.50 per 100. No. 3W Winchester primers, \$1.50 per 1,000. Send two-cent stamp for complete list of cartridges and primers. **WANT**—32-20 Colt's Police Positive Special; 25-36 Marlin carbine; 2 1/2 X short scope; 250-3,000 Sporter, heavy barrel. H. C. Moore, Box 29, Prairie du Sac, Wis. 2-28

**"GUNMAKERS' RECIPES"**, a booklet containing all the genuine ones. Complete information. Do your own gunsmithing. \$1.02 postpaid. Western Arms Co., Ottumwa, Iowa. 2-28

**FOR SALE ONLY**—Winchester carbine, 30 twenty-inch round barrel, box shells, excellent, \$25. Marlin, Model 27, slide repeating rifle, 32-20, new stock, barrel worn but accurate, \$11. One Remington, Model 12C, good shape and accurate, \$14. Colt New Service 38-40, 5 1/2-inch barrel, new, \$26. Colt Army Special, 32-20, six-inch barrel, new, \$22.50. Colt Police Positive Target, .22 W. R. F., 6-inch barrel, new, \$21. Cash only. F. A. Duffner, Watertown, S. Dak. 2-28

**SELL**—9-mm. 12-inch Luger, holster and carbine stock with shoulder straps, \$45. 12 1/2-inch 9-mm. barrel, with receiver, \$22.50. 6-inch 7.65, with receiver, \$15. All have gold front sights, new condition. Browning automatic 12-gauge, 32-inch ribbed barrel in factory box and grease, \$60. **WANT**—250-3,000 Savage barrel, Model 99G, taken down, new condition. M. G. McNeely, Box 201 Fruitvale Station, Oakland, Calif. 2-28

**STRAIGHT-LINE S. & W. TARGET**, \$25. **WANT**—Luger or Remington 50 pistol or action. C. Vonrick, Box 37, Wilkes-Barre, Pa. 2-28

**SELL**—Gould's "American Revolvers and Pistols." Same, rifles. Auction sale; priced catalogues. Dillin's "Kentucky Rifle"; other gun books. Fred Wainwright, Grayling, Mich. 2-28

**FOR SALE OR TRADE**—7.65-mm. German Mauser, sporting stock, 80 cartridges, good condition, no war junk, \$26. .25-20 slide-action Marlin, new, \$24. **WANT**—Winchester 95, Model 30, Army, and .22 auto. pistol. E. Hinkle, 2001 1/2 L St., Sacramento, Calif. 2-28

**TRADE**—Brand-new Winchester, Model '97, 12-gauge pump for 20-gauge pump gun. Sell or trade 300 copies AMERICAN RIFLEMAN, 1917 to 1926. J. R. Satava, 2275 E. 77th St., Cleveland, Ohio. 2-28

**FOR SALE**—5A scope, leather case, Fecker mounts, \$37. Vion 33-power scope and stand, \$23. Seward Fisher, 151 John St., Ilion, N. Y. 2-28

**WANTED**—Two cases, caliber 30, Model 1906 ammunition. Give price and description. Sell Lyman 48-C new, \$5.50. Remodeled Krag, \$12. Jos. Backman, 824 Monroe St., Newport, Ky. 2-28

**FOR SALE**—Star-gauged Springfield, new, fired 100 rounds, perfect condition, front rear sight covers extra sporter stock cut from military stock; \$31 plus express charges. Send money order \$3, rifle shipped; balance O. O. D., subject examination. C. W. Hodge, Coeur d'Alene, Idaho. 2-28

**FOR SALE**—Winchester 54, .270-caliber, brand new, \$32. O'Hare micrometer, \$2.50. J. J. Wiley, Emporium, Pa. 2-28

**FOR SALE OR TRADE**—Waffenfabrik Sporting Mauser, 8-mm., fine condition. D. H. Ryan, 752 Washington St., Memphis, Tenn. 2-28

**FOR SALE**—J. P. Sausser & Son, shotgun, pre-war, double-barrel, self-ejector, Krupp fluid steel stock 14-1 1/2-2 1/2, hammerless six-half-barrel, 26-inch, 12-gauge, Circassian walnut, finely checkered, action elaborately engraved hard relief, cost in Germany, prewar price, \$950; present American (tariff) cost about \$600. Fine secondhand condition. Sell \$190. Write. A. M. Hyman, 1705 Larimer St., Denver, Colo. 2-28

**SALE**—New S. & W. .250, Model '99G, Lyman peep, perfect except stock scratched, \$40. G. V. Wilkie, 2154 Ward St., Berkeley, Calif. 2-28

**WANTED**—Good-grade Ithaca, Smith or Parker 20-gauge, 28-inch barrels, full and modified, single trigger, automatic ejectors, 3-inch chambers, 3-inch drop, recoil pad and in fine condition. Lowest-priced gun, with quality considered, will be taken. A. D. Straughan, Cranford, N. J. 2-28

**TRADE**—N. M. Springfield equipped with Lyman 48, in good condition. **WANT**—Fecker scope, with Pope rib and mounts; must be in good condition. E. T. Kirk, 414 West 20th St., Cheyenne, Wyo. 2-28

**WANTED**—Crank condition 52 Winchester. Also 5A scope and mounts. Dr. S. A. Merriam, Dixiana, Ala. 2-28

**COLLECTING CARTRIDGES!**—Gladly exchange my duplicates for others or for gun books, old gun catalogues, etc. Can furnish small cartridge collections. A. Wescott, Kenvil, N. J. 2-28

**SELL OR TRADE**—Winchester .25-20, Model 53, inside perfect, outside fine; Marlin .22, Model 38, new; Russian Sporter restocked, Lyman equipped, new; Colt Woodman .22 Automatic, new; S. & W. .22-32 revolver, new. Will sell cheap or take used guns, revolvers or reloading tools as part payment. R. McCaslin, Centralia, Kans. 2-28

**CROSSMAN'S** recent book "SMALL-BORE RIFLE SHOOTING" is the most valuable and original work of this nature which has appeared in the past twenty-five years. It will prove of assistance and value to any military or target rifle-shot and to hunters. Invaluable to the beginner and to the Annual and Club members of the N. R. A. \$3.50 delivered. Small Arms Technical Publishing Co., Box 18, Marshalltown, Del. 2-28

**SELL**—Springfield Sporter with special heavy barrel. In fine shape, with Globe front and Lyman micrometer rear sight. Bore perfect. \$40. Consider trade shotgun, fancy .45 single-action, or flintlock Kentucky. **WANT**—copies this magazine July 15, 1920, and August 1, 1925. G. A. Martin, 320 King St., Charleston, S. C. 2-28

**SALE**—Gunstock blanks from butt logs, dense, tough walnut, \$1 to \$5. Descriptive price list free. John Parkhill, 624 Fourth St. S. W., Rochester, Minn. 2-28

**WANTED**—30-06 Springfield and bayonet; 30 1917 Army model and bayonet. Must be excellent and priced right. Harry Boggess, Liberty, Mo. 2-28

**FOR SALE**—32-20 Marlin carbine and reloading tools; New Smith 12-gauge full-choke Winchester L. C. Model, .33-caliber, half magazine. Chas. De Golicier, Clayton, Wis. 2-28

**SELL**—Colt Camp Perry, new, \$30; Remington Express .30-06, Lyman 48, new, selected accuracy, \$42. **WANT**—Winchester 52, 5A scope, Fecker scope. J. Fred Engert, 506 W. Lake Ave., Herkimer, N. Y. 2-28

**LOADING TOOLS**—Ideal .45 Colt revolver, \$3.25. Winchester 32-20 and mold, \$3.25. 300 cartridges 7.62 Russian, \$9. Fox 12, new, \$30. "Arms and Man," 1918. .32-20 slide-ejector revolver, \$12. Trade 40-62 Winchester smooth-bore for pistol. Kessler, 1105 Maple, Des Moines, Iowa. 2-28

**SALE**—"Sharps Old Reliable" .22 Shuetzen, aperture sights, no rust, heavy octagon barrel, like new, 100 cases, 100 bullets, decapping repriming tool, sole-leather full-length case, \$50. **TRADE**—Krag carbine, 1-inch groups, 100 yards, for S. & W. 1917. G. H. Collins, Court House, San Antonio, Tex. 2-28

**KRAG HANDLOADERS**—800 good old-fashioned 220-grain Krag bullets and 300 primed Krag cases, one penny each; 10 bandoliers Krag ammunition, same good bullets, and 10 bandoliers .30-06 ammunition, \$2.50 each. J. A. Carter, 310 Moloney Bldg., Ottawa, Ill. 2-28

**TRADE**—New .22 target revolver, 7-shot, special frame. **WANT**—410 shotgun. C. B. Williams, 1108 Bidwell St., Pittsburgh, Pa. 2-28

**FOR SALE**—Colt Aito, target pistol .22-caliber, new and perfect, with holster, \$25 prepaid. Yankee reloading tool for .30-06, new, \$5 prepaid. Ideal powder measure No. 2, in new condition, \$3 prepaid. Italian style accordion, two rows of keys, new, cost about \$10, in new condition, \$3 prepaid. Sporting Springfield with Winchester scope blocks, Howel-Whelen sleeve sight, antiflash recoil pad, not cut for Lyman sight, never used, \$50. Arthur E. Anderson, Fullerton, N. Dak. 2-28

**SALE**—New Remington .25-20 pump, Lyman target-disk peep, 115 cartridges, reloading outfit, two powders, complete, \$30. **WANT**—22-32 S. & W. George Courtney, 821 Dewey, Ann Arbor, Mich. 2-28

**WILL TRADE**—One perfect Smith & Wesson, Model 1917, .45-caliber, with holster, for either Colt Army Special, caliber .38 Special, or Smith & Wesson Military and Police .38 Special, 4-inch barrel, in good shape. George S. Bergman, 71 E. 96th St., New York, N. Y. 2-28

**WANTED**—Fine inlaid Kentucky rifles, also fancy 1873 Winchester. Describe fully or send photo. Wm. Rolston, 1987 Buena Vista, Detroit, Mich. 2-28

**ELEVENTH ANNUAL AMERICAN INDOOR RECORD MATCH**—February 23 to March 31, 1928. Offhand match, 50 shots, \$2. Prone Match, 50 shots, \$2. Free rifle, any sight, any range, 75 feet. Open to all. O. T. Westergaard, Sec'y, Whiting, Iowa. 2-28

**SALE**—New 3-barrel Greener patent 2-12's, .30-30, \$100. Also .22 L. R. S. S. Winchester. E. A. Hatton, Del Rio, Tex. 2-28

**SALE OR TRADE**—Fecker spotting scope, single-draw type, 2 eye-pieces, \$35. Remington F grade, 12-gauge, double, \$65. No. 57 Winchester, .22-caliber, long rifle, never fired, \$20. Goetz 6 x 30 Helinox Triedar binoculars, \$30. Ithaca 4E, single trap, \$45. Krag carbine with new N. R. A. sporter barrel rechambered and fitted by Niedner, Lyman bolt sight, and 100 new Winchester cases, \$25. **WANTED**—Heavy-barrel Springfield, Fecker target scope, and mounts, prefer 1 1/2 objective or B. & M. target scope. Dunlap Roddey, Rock Hill, S. C. 2-28

**TRADE**—Martini action and stock, as illustrated in detail page 20, October RIFLEMAN. **WANT**—Reisinger Walther Auto. 250-bolt or .22 Special M1. Alfred Hanson, Graceville, Minn. 2-28

**FOR SALE**—Winchester .32-40, '94 Model, \$15. Krag carbine, \$12. Colt single-action .38-40, 5 1/2-inch barrel, \$18. Colt .45, Model 1917, \$18. Colt .45 Automatic, Army model, \$15. J. K. Sheerer, Matawana, Pa. 2-28

**FOR SALE**—Springfield sporter, fine handmade stock, imported walnut, good inside and out, gold bead front 48 Lyman sights, \$30. 1 prewar 8-mm. Sauer Mauser, double set triggers, bluing slightly worn, inside good, both open and Lyman rear sights, \$30. 1 8-mm. Waffenfabrik Mauser, new, double set trigger, open sights, light weight and snappy, \$30. 1 8-mm. short Waffenfabrik Mauser new, double set trigger, gold bead open and 48 Lyman rear sights, 120 cartridges, \$60; a beauty; weighs 5 1/2 pounds; shoots 150-grain bullet of about 2,500 f. velocity; fine for lady or for junior; would make handsome gift. 1 7.63 Mauser pistol-rifle; wood stock, holster, good condition; 100 rounds, \$30. Springfield .30-06 ammunition at \$20 per case. 200 rounds .30-06 Springfield Western open-point and Remington express sporting ammunition, \$6. 416 Rigby ammunition, about 100 rounds, hard and soft point, 5 cents per shell. The foregoing guns and ammunition are from estate of a deceased sportsman. Guns are all accurate and in good condition and ammunition good. A. R. E., 111 W. Washington St., Suite 1001, Chicago, Ill. 2-28

**FOR SALE**—Colt .22 Automatic, perfect, and Heiser holster, \$25. Colt Officers' Model, 7 1/2 inch. 26. Hensoldt binoculars, 8 x 24, and case, new condition, \$20. David Armitage, 1234 Wagner Ave., Logan, Philadelphia, Pa. 2-28

**SELL**—Ithaca 4E Single Trap, perfect, minus recoil pad, \$50. Winchester 95, .30-40 bore, perfect, outside fine, sheared front, Lyman receiver rear, \$22. Winchester .22 Auto, fair, \$12. Winchester 54, .30-06 Lyman 48, recoil pad, perfect condition, \$40. N. R. David 12, single, new, \$7. Iver Johnson 20, single, new, ribbed barrel, \$10. Geo. A. Goeke, Waukon, Iowa. 2-28

**TRADE**—Dixie 4-cylinder magneto, good. **WANT**—22 match rifle, target revolver, cartridges for Russian. V. Coleman, Guion, Ark. 2-28

**FOR SALE**—OX B. & M. scope, A and B mounts, A1 condition, \$45. E. M. King, Pennsboro, W. Va. 2-28

**SELL**—Fancy Marlin, Model 39, .22-caliber, Lyman peepsights, brand new, \$26. Fox 20-gauge A, Grade, 26-inch full, brand new, \$42. Ithaca 20-gauge, No. 2 grade, 28-inch modified, equal to new, \$40. J. E. Wellington, Box 223, Wellsville, Ohio. 2-28

**SALE**—TRADE—One new Winchester Automatic in factory grease, \$30. Winchester .32-40 S. S. rifle No. 3, barrel in fair condition, Model 79, with reloading tools, Ideal No. 6, \$14. Stevens Armory 414, in fine condition, except blue is off receiver, \$12. **WANT**—Marlin lever-action, Model 39, rifle. **TRADE**—Winchester auto, in same condition. Ideal bullet-resizer, size 309 1/2, powder scales, armory reloading outfit. E. L. Brown, Verona, Pa. 2-28

**TRADE**—Anasco folding Kodak, Eastman Sterno Kodak, separately, for old rifles or carbines. Gerald Pierce, Route 4, Iant, Minn. 2-28

**FOR SALE**—The following rifles. These are new and have never been shot. First certified check or money order clinches sale. 52 Winchester, new model stock, \$26; 52 Winchester, old model stock, \$23; Model 1919 Savage, \$12. Laurence Nuesslein, 5209 Connecticut Ave., Washington, D. C. 2-28

**SELL**—12-gauge Winchester, 1912, good as new, \$40; 12-gauge Remington automatic, good, \$35. Arthur Hagen, Northwood, N. Dak. 2-28

**WANTED**—Sporting stock for Krag rifle. Louis Santangelo, 185 S. Main St., Middletown, Conn. 2-28

**WANTED**—Cheap Winchester S. S. .22, C. P. octagonal (no musket). W. H. Fluck, Great Kills, Staten Island, N. Y. 2-28

**FOR SALE**—32-40 Pope Winchester muzzle-loader, Schutzen rifle, complete outfit, with extra shells and primers. Will guarantee this rifle to shoot 1-inch groups at 100 yards. Rifle is in new condition. \$100. Laurence Nuesslein, 5209 Connecticut Ave., Washington, D. C. 2-28



**FOR SALE**—One No. 34 Lyman Rec. sight for Krag. One Lyman combination V and flat-top sight as new, \$7.50. Ernest Studer, Lyons, N. Y. 2-28

**SELL**—Perfect .45-70 Winchester, 86 round 22-inch barrel, half magazine, Lyman sights, \$37.50. Model 1917 Enfield .30-06 sporter, fine, \$30. Marlin .45-90, fair, \$12. Springfield .45-70 carbine, fine, \$4. Smith No. 10, hammerless, double, 30-inch, full, \$22.50. Colt .45 Auto, good, \$17.50. Colt .38-40 rifle, fair, \$7. Colt .45 D. A. Frontier, 5½-inch, good, \$15. Earl J. Russell, Monmouth, Ill. 2-28

**WANT**—S. & W. perfected model pistol, .22-caliber, L. R. No. 10. Price and description first letter. R. Hawthorne, 459 Spring St., Elgin, Ill. 2-28

**FOR SALE**—38-55 Winchester, S. S. Schuetzen, No. 3 Carrell peesight, check-piece set trigger, in A1 shape inside and out, \$40. .40-caliber breech-loading cap-and-ball Sharps, in good condition, \$10. .22 Savage Sporter, peep rear, glove windage front, in fair shape, \$10. **WANT**—A Fecker scope and mounts. John Skinner, 1319 N. Jackson, Topeka, Kans. 3-28

**WANTED**—Colt Dragoon or Army cap-and-ball revolver in new or perfect condition. Give full description and price. P. O. Box 602, Santa Barbara, Calif. 2-28

**FOR SALE**—No. 48 N. R. A. short slide, new, \$8. Lyman 103 bolt-head sight, new, \$4. J. P. Thompson, Hersey St., Hingham Center, Mass. 2-28

**WANTED**—Ten Pennsylvanians as my partners in hunting and pleasure lodge at Indos Summit. Finest location in Lotus Valley. Initial cost per man \$100. Upkeep low. First bidders accepted if satisfactory. Eric Dale, Weedville, Pa. 2-28

**FOR SALE**—Martini Action, needs slight repairs, \$10. Colt Burgess .44 rifle; Colt Navy 7½ .40 Maynard, fine. Harry McGinley, Houlton, Me. 2-28

**FOR SALE**—Brand-new .30-06 Winchester 54, \$37.50; carbine, \$35.75; .300 Savage 99G, \$39.50; 23B, \$20. Cash. Liberty Sport Shop, Liberty, N. Y. 2-28

**FOR SALE**—Copies of "Arms and the Man" and THE AMERICAN RIFLEMAN from March, 1921, to December, 1927. V. M. Lochmiller, 507 W. Laurel St., Independence, Kans. 2-28

**WANTED**—Case .06 ammunition, .303 British Enfield 1917 Enfield rifles; Eastman Post-Card Camera. H. H. Marx, Cottonwood, Calif. 2-28

**WANTED**—Colt Single-Action Army, .32-20, 7¼-inch blued. Charles E. Spaulding, 1445 E. Main St., Rochester, N. Y. 2-28

**WANTED**—Colt .41-caliber, 2¼-inch barrel first, Model D. A., blue, good. Frank C. Cowan, Arrow-smith, Ill. 2-28

**SMITH SPECIALTY**—12-28-inch, 6-pound, 5-ounce improved cylinder modified, perfect, \$60. S. M. Lukehart, Du Bois, Pa. 2-28

**FOR SALE**—Colt .38 Special, officers' model. Good as new. H. E. Nicholson, Seaside, Ore. 2-28

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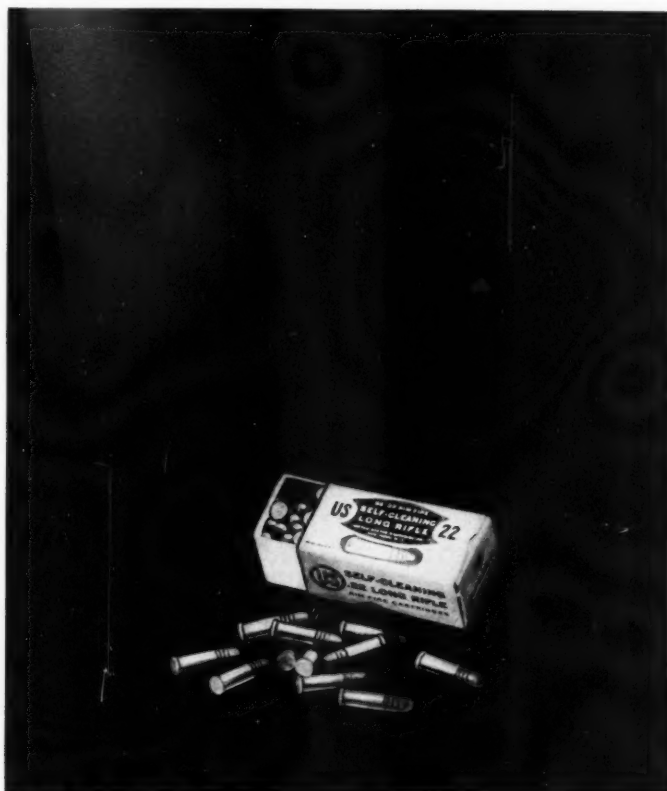
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